

Roland

PROFESSIONAL
AUDIO AND VIDEO EQUIPMENT
2013 - 2014

AUDIO

DIGITAL CONSOLES
DIGITAL SNAKES
PERSONAL MIXERS
MULTI-CHANNEL RECORDERS
AUDIO RECORDERS



VIDEO

VIDEO MIXERS/SWITCHERS
VIDEO CONVERTERS
VIDEO PLAYERS



Bringing Professional Audio and Video Together

Welcome to the Roland Professional Audio and Video Equipment catalog.

Roland has introduced many innovative products to the professional market over the past few years and has built a strong trust across many users and installations around the world. Through continuous development and a clear focus on professional audio/video products, Roland Systems Group is committed to providing unique solutions to improve workflow and maximize creative possibilities.

We offer solutions to many markets including: Broadcast • Education • Legal • Live Production • Sports • Theater • Theme Park • Videography • Visual Performance • Worship.

NEW PRODUCTS

M-200i | Live Mixing Console



P.11

iPad Meets Professional Digital Mixing Console

R-88 | 8-Channel Recorder and Mixer



P.24

All in One Recorder, Mixer and Audio Interface - Anytime, Anywhere

V-40HD | Multi-Format Video Switcher



P.33

Four Multi-Format Channels at the Pinnacle of HD Picture Quality

V-4EX | 4-Channel Video Mixer



P.36

Four HDMI input video mixer with built-in multiviewer and USB port for streaming

VR-50HD | Multi-Format AV Mixer



P.39

An all-in-one HD Multi-Format AV Mixer with built-in USB 3.0 for Web Streaming and Recording

VC-1 series | Video Converters



P.49

Lossless 3G-SDI and HDMI Conversion

DIGITAL CONSOLES

DIGITAL SNAKES

PERSONAL MIXERS

MULTI-CHANNEL RECORDERS

AUDIO RECORDERS

VIDEO MIXERS/ SWITCHERS

VIDEO CONVERTERS

VIDEO PLAYERS

APPLICATIONS


M-480

M-380

M-300

M-200i

DIGITAL CONSOLES


S-4000 series

S-1608/S-0816

S-0808

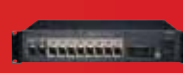
S-4000M

S-MADI

S-OPT

W100S-R/SC-W100S/SC-W20F

DIGITAL SNAKES


M-48

S-4000D

RH-PM5

PERSONAL MIXERS


R-1000

S-RDK

MULTI-CHANNEL RECORDERS


AR-3000R

AR-200R

R-88

R-44

R-26

AUDIO RECORDERS


V-1600HD

V-800HD

V-40HD

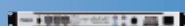
LVS-800

V-4EX/V-8/V-4

MVS-12

VR-50HD/VR-5/VR-3

VIDEO MIXERS/SWITCHERS


VC-300HD

VC-200HD

VC-50HD

VC-30HD

VC-1-SH

VC-1-HS

VC-1-DL

VC-1-SC

VIDEO CONVERTERS


P-10

CG-8

VIDEO PLAYERS

- Audio Production
- Personal Mixing
- Recording/Broadcasting

- Visual Production
- Web Streaming and Capture/Archiving
- Video Recording

APPLICATIONS

V-Mixing System

Configure a system for any venue or application The V-Mixing System - an advanced mixing environment

It's not simply a digital version of an analog console. The V-Mixing System is the next generation mixing "ecosystem" that exploits the advantages of digital technology. It separates mixing (V-Mixer) from the input/output section (Digital Snake) enabling pure sound, minimal loss of transmission with very flexible system configuration and setup. It allows effortless add-ons for monitoring solutions (M-48 Personal Mixer) as well as multi-channel live recording (SONAR REAC Recording System and R-1000 48-Track Recorder/Player). The V-Mixing System brings together the predominant components of the live sound environment, expanding the possibilities and benefits far beyond the sum of its parts.

REAC

High quality sound is obtained with ease and flexibility REAC - advanced audio transfer technology

REAC (Roland Ethernet Audio Communication) technology is the cornerstone of the V-Mixing System. REAC is Roland's original technology for low latency, high quality digital audio transfer. REAC is an Ethernet based technology that enables multiple components to be easily integrated using lightweight Cat5e/6 cable. With just a single inexpensive cable, 40 input x 40 output channels of 24-bit uncompressed audio data (including level and control information) are transferred.



Digital Snakes

Enjoy superior clear sound, great intelligibility with minimum latency and the freedom to split or extend your audio sources anywhere.

Digital Snake

Bridging

The S-MADI REAC Bridge enables connectivity between MADI-equipped digital audio mixers/systems to any REAC-based devices.

S-MADI
REAC MADI BRIDGE

Personal Mixers

The M-48 is the "next generation" live personal mixer that offers musicians the flexibility to control exactly what they want to listen to during their performances.

M-48
LIVE PERSONAL MIXER

SONAR
PRODUCER

Digital Consoles

Available with a variety of digital snake configurations, this fully featured digital solution is ideal for any mid-sized live event applications in corporate, church, school or rental/staging environments.

Recording

Multi-channel recording and playback is accomplished with reliability and stability using the dedicated R-1000 48-Track Recorder/Player.

R-1000
48-TRACK RECORDER/PLAYER

V-Mixing System

					
		M-480	M-380	M-300	M-200i
Input	Mixing Channels	48	48	32	32
	Return Channels	6 Stereo (12)	-	-	-
	Dynamics Channel	48	24 (assignable)	32	32
	Delay	0 to 1200 msec	-	-	-
	PEQ	4-band PEQ	2-band PEQ + 2 Shelving EQ	4-band PEQ	4-band PEQ
Effects	EQ	12 x 31-band GEQ or 8-band PEQ * Maximum 24 using FX	4 x 31-band GEQ * Maximum 12 using FX	4 x 31-band GEQ * Maximum 8 using FX	4 x 31-band GEQ * Maximum 8 using FX
	Built-in Effect (Stereo/Dual mono)	6	4	4	4
	AUX bus	16	16	8	8
Output	MATRIX bus	8	8	4	4
	MAIN bus	L, C, R	L, R * AUX is available as Main C	L, C, R	L, R
	PEQ	4-band PEQ	2-band PEQ + 2 Shelving EQ	8-band PEQ	4-band PEQ
	Limiter	Limiter	Limiter (MAIN, AUX)	Limiter	Limiter/Comp
	Delay	0 to 1200 msec	-	0 to 400 msec	0 to 400 msec
	DCA	24	8	4	8
Console/ Others	Input Connectors	10 [XLR (x8), RCA (x2)]	10 [XLR (x8), RCA (x2)]	12 [XLR (x4), RCA (x4), TRS Phone (x4)]	24 [XLR (x16), RCA (x2), TRS Phone (x6)]
	Output Connectors	10 [XLR (x8), S/PDIF (Optical, Coaxial)]	10 [XLR (x8), S/PDIF (Optical, Coaxial)]	10 [XLR (x4), TRS Phone (x4), S/PDIF (Optical)]	14 [XLR (x8), TRS Phone (x4), AES/EBU]
	USB Recorder/Player	Yes	Yes	Yes	Yes
	REAC MODE	Master/Split	Master/Split	Master/Split	Master/Slave/Split
	Rackmount	-	12U	10U	10U
	PC/Mac control	M-480 RCS	M-380 RCS	M-300 RCS	M-200i RCS
	iPad control	M-480 Remote	-	M-300 Remote	M-200i Remote

■ How to Configure a V-Mixing System

Step 1

Decide on inputs/outputs

There are a number of I/O configuration choices. Select based on size, I/O count, and modularity.



S-0808 S-1608 S-4000S

Determine if you need additional splits for monitoring, recording or distribution to multiple places. You can also distribute your main I/O units together into a merged REAC signal.



S-4000D S-4000M

Step 2

Choose a Console

There are four choices of consoles to choose from. Differences center around:

- Mixing Channels
- Processing Power
- Number of Faders
- Size and rackmount ability



M-480 M-380



M-300 M-200i

Step 3

Choose Monitoring Solution

Monitoring needs can be addressed by adding the M-48 Personal Mixing option, another V-Mixer as a monitor console, or the combination of both.

The M-48 offers musicians the flexibility to control exactly what they want to listen to during their performance.

M-48

Add an additional V-Mixer to create a monitor position that can control wedges and/or any M-48 personal mixers connected taking the burden off of the FOH position.

M-300

Step 4

Choose Recording/Playback Solution

Multi-channel recording and playback can be added by using a simple Cat5e/6 cable from a split point.

Record/play back up to 48-channels of audio using the Roland R-1000 Multi-Channel Recorder/Player.



R-1000

Capture up to 40-channels of audio to a computer using the SONAR REAC Recording solution.



SONAR

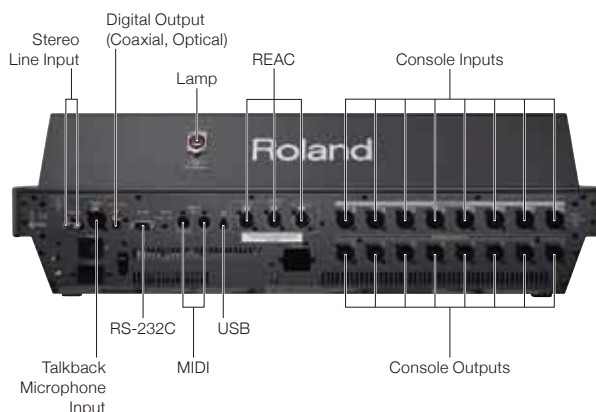
V-Mixer M-480 | Live Mixing Console

Flagship console with a new world-class powerful mixing engine

REAC

Roland Wireless Connect

V-LINK



- 48 mixing channels plus 6 stereo returns for a total of 60 channels
- Main (LCR) outputs, 16 AUX buses, 8 matrices
- Configurable to 90 inputs and 90 outputs depending on Digital Snake configuration
- 4-band advanced parametric EQ, and delays on all inputs and outputs
- Compressors and Gates on all mixing channels
- Six built-in stereo (dual-mono) multi-effects and twelve graphic EQs (switchable to 8-band PEQs)

- 214 possible output patch points on each port (A,B, console), allows direct routing from preamp to output point without having to use mix channel
- Supports integration with Personal Mixing System and Multi-Channel Live Recording/Playback
- Cascade connection supports large format applications for 96 mixing channels
- Remote control from the dedicated iPad application, M-480 Remote

The large, bright 800 x 480 color LCD gives a very clear view of all the V-Mixer's parameters

● Channel Display



Channel Editing Display is a familiar and easy-to-use analog-style layout of all common channel parameters.

● Channel EQ



Dedicated screen for editing channel EQ. Change values quickly using the dedicated knobs.

● EFFECTS



View and edit the 6 stereo (dual mono), high-quality FX for channel/bus inserts such as reverb, delay, channel strip.

● GEQ/PEQ

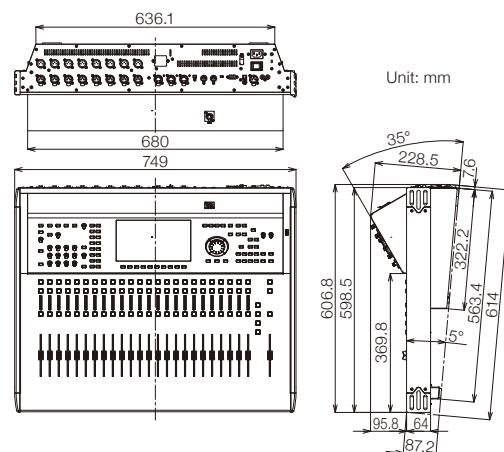


Setup screen for twelve 31-band Graphic EQs or 8-band Parametric EQs.

M-480 RCS - Remote control software for PC/Mac



Free download from
www.rolandsystemsgroup.net



M-480 Remote

Application for remotely controlling the Roland M-480 V-Mixer live mixing console.



NEW

●Channel Strip



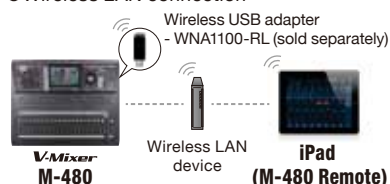
●Channel EQ



●Graphic EQ



●Wireless LAN connection



Using a Wireless USB adapter, connect the M-480 to a wireless LAN device such as a router to establish a wireless connection with an iPad.

●Ad-Hoc connection



Connect the M-480 directly to an iPad without using wireless devices such as a router.



Available on the
App Store

Options



WNA1100-RL

Wireless USB Adapter

The M-480 and an iPad can be connected wirelessly.



M-UF2G

2 GB USB Flash Memory

For uncompressed WAV recording/playback and saving/loading configuration files.

SPECIFICATIONS M-480

Channels, Buses, I/O	MIXING CHANNEL: 48 channels, 6 stereo returns BUSES: MAIN L/C/R, 16 AUX buses, 8 MATRIX buses INPUT: 10 ports (Max 90 ports when using REAC devices) OUTPUT: 10 ports (Max 90 ports when using REAC devices)
Internal processing	56 bits
AD/DA Conversion	24-bit/48.0 kHz or 44.1 kHz
Network Latency	2.8 mS (typ.) * Total System Latency of audio signal from S-1608 inputs to outputs via M-480's REAC ports (A or B). * Sample Rate: 48.0 kHz * Effects : No insert effects
CONSOLE INPUT jacks (1 to 8)	XLR-3-31 type (balanced, phantom power)
TALKBACK MIC IN jack	XLR-3-31 type (balanced, phantom power)
STEREO IN jacks (L/R)	RCA phono type
CONSOLE OUTPUT jacks (1 to 8)	XLR-3-32 type (balanced)
PHONES jack	Stereo 1/4 inch phone type
DIGITAL OUT jacks Stereo	Optical type, Coaxial type
REAC Ports	RJ-45 EtherCon type
USB connectors	USB Type A and Type B
Remote Controls	RS-232C connector: 9-pin D-sub type MIDI connectors (OUT/THRU, IN): 5-pin DIN type
Other Connectors	GND Terminal, LAMP connector XLR-4-31 type
Frequency Response	CONSOLE OUTPUT jacks (1 to 8): -2 dB / +0 dB (20 k ohms load, +4 dBu, typ.) PHONES jack: -3 dB / +0 dB (40 ohms load, 150 mW, typ.)
Total Harmonic Distortion + Noise	CONSOLE OUTPUT jacks (1 to 8): 0.05 % (+4 dBu, typ.) PHONES jack: 0.05 % (typ., 40 ohms load, 150 mW, typ.)
Dynamic Range	CONSOLE OUTPUT jacks (1 to 8): 110 dB (typ.)
Crosstalk@ 1 kHz	CONSOLE INPUT jacks (1 to 8): -80 dB (Pad: ON, Input gain: +10 dBu, typ.), CONSOLE OUTPUT jacks (1 to 8): -100 dB (typ.)
Nominal Input Level (Variable)	CONSOLE INPUT jacks (1 to 8): -65 to -10 dBu (Pad: OFF) or -45 to +10 dBu (Pad: ON), (typ.), STEREO IN jacks (L / R): -18 to 0 dBu, TALKBACK MIC IN jack: -50 to -10 dBu

Input Impedance	CONSOLE INPUT jacks (1 to 8): 14 k ohms, STEREO IN jacks (L / R): 10 k ohms, TALKBACK MIC IN jack: 41 k ohms
Non Clip Maximum Input level	CONSOLE INPUT jacks (1 to 8): +8 dBu (Pad: OFF) or +28 dBu (Pad: ON), (typ.), STEREO IN jacks (L / R): +18 dBu (typ.), TALKBACK MIC IN jack: +8 dBu (typ.)
Nominal Output Level	CONSOLE OUTPUT jacks (1 to 8): +4 dBu (Load impedance: 10 k ohms, typ.)
Output Impedance	CONSOLE OUTPUT jacks (1 to 8): 600 ohms PHONES jack: 100 ohms
Recommended Load Impedance	CONSOLE OUTPUT jacks (1 to 8): 10 k ohms or greater PHONES jack: 8 ohms or greater
Non Clip Maximum Output level	CONSOLE OUTPUT jacks (1 to 8): +22 dBu (1 kHz, 10 k ohms load, typ.) PHONES jack: 150 mW + 150 mW (1 kHz, 40 ohms load, typ.)
Residual Noise Level (IHF-A, typ.)	-88 dBu (All faders: Min)
Equivalent Input Noise Level (E.I.N.)	-126 dBu
Display	800 x 480 dots Wide VGA backlit TFT color screen
Power Supply	AC 115 V, AC 117 V, AC 220 V, AC 230 V, AC 240 V (50/60 Hz)
Power Consumption	95 W
Dimensions	749.0 (W) x 614.0 (D) x 228.5 (H) mm 29-1/2(W) x 24-11/16(D) x 9-1/16(H) inches
Weight	20 kg, 44 lbs 1 oz

* XLR type: 1 GND, 2 HOT, 3: COLD

* phantom power: DC +48 V(unloaded maximum), 14 mA(maximum load) (All XLR type inputs)
* LAMP power: DC +12 V/500 mA

* When a REAC Splitter&Distributor S-4000D or a switching hub is used in-line with REAC cables, the network latency will increase by the amount of processing delay introduced by the splitting device itself. The actual delay is dependant upon the specifications of the splitting device, though the maximum delay amount for a single splitting device should be about 200 microseconds.

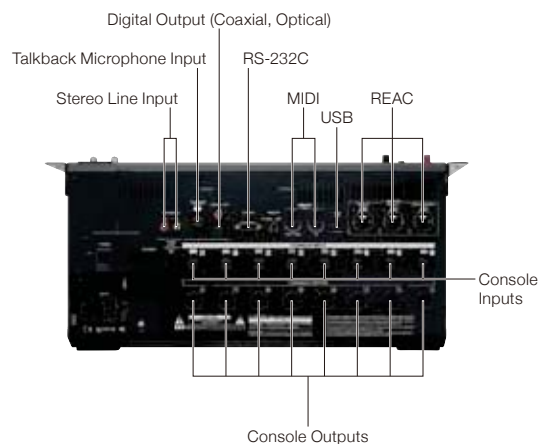
* EtherCon is the registered trade mark of Neutric®

V-Mixer M-380 | Mixing Console

The most powerful rack-mountable digital mixing console

REAC

V-LINK



- 48 Channels/18 Buses/8 Matrices with 4 dual/mono effects processors, 31-band GEQs/8-bands PEQs
- Built-in REAC ports allows flexible system expansion
- 56-bit internal processing
- Large, bright 800 x 480 LCD color screen
- 100 mm touch sensitive motorized faders
- Direct connection with PC for multi-channel recording
- USB memory player/recorder
- Scene recall with preamp gain
- Remote control and offline setup using a PC
- Support for M-48 Personal Mixing System
- V-LINK provides an automatic audio follows video mix

The M-380 allows setup Flexibility and Portability

● Desktop Size



[Dimensions]
482.0 (W) x 581.3 (D) x 220.6 (H) mm
19 (W) x 22-15/16 (D) x 8-11/16 (H) inches

● Rack-mount Size



[Dimensions]
482.0 (W) x 231.3 (D) x 550.9 (H) mm
19 (W) x 9-1/8 (D) x 21-11/16 (H) inches

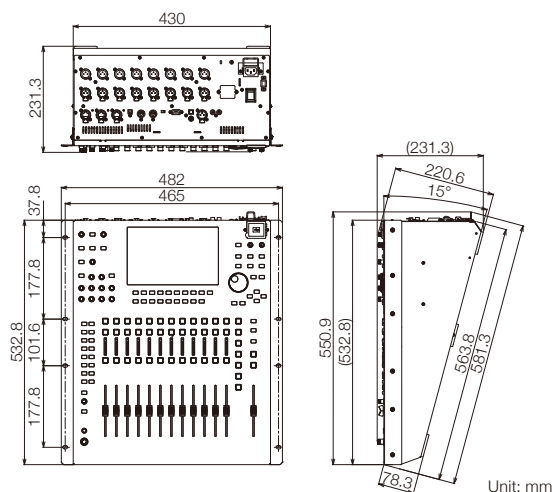
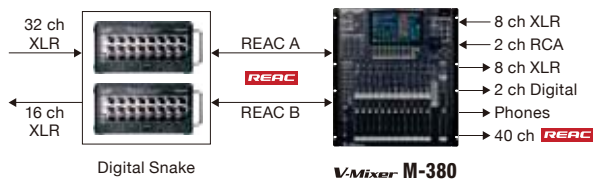
RS-232 Control



System integrators are able to create control interfaces for the M-380 V-Mixer from industry standard system control touch panels by harnessing the power of the RS-232 connection on the M-380. Users can recall scenes, adjust volume levels, mute channels or groups and control dozens of other mixing parameters. The M-380 can be discreetly installed in a hidden rack with all control happening from the interface designed by the system integrator.

Installed Sound - Standard V-Mixing System – 42 Inputs/26 Outputs

Standard System consists of two S-1608 Digital Snakes on stage.



M-380 RCS - Remote control software



Free download from
www.rolandsystemsgroup.net

SPECIFICATIONS M-380

Channels, Buses, I/O	MIXING CHANNEL: 48 channels BUSES: MAIN L/R * AUX is available as MAIN C, 16 AUX buses, 8 MATRIX buses INPUT: 10 ports (Max 90 ports when using REAC devices) OUTPUT: 10 ports (Max 90 ports when using REAC devices)
Internal processing	56 bits
AD/DA Conversion	24-bit/48.0 kHz, 44.1 kHz
Network Latency	2.8 mS (typ.) * Total System Latency of audio signal from S-1608 inputs to outputs via M-380's REAC ports (A or B). * Sample Rate: 48.0 kHz * Effects: No insert effects
CONSOLE INPUT jacks (1 to 8)	XLR-3-31 type (balanced, phantom power)
TALKBACK MIC IN jack	XLR-3-31 type (balanced, phantom power)
STEREO IN jacks (L/R)	RCA Pin type
CONSOLE OUTPUT jacks (1 to 8)	XLR-3-32 type (balanced)
PHONES jack Stereo	1/4 inch phone type
DIGITAL OUT jacks	Optical type, Coaxial type
REAC Ports	RJ-45 EtherCon type
USB connectors	Type A, Type B
Remote Control connectors	RS-232C connector 9-pin D-sub type MIDI connectors (OUT/THRU, IN) 5-pin DIN type
Other connectors	GND terminal
Frequency Response	CONSOLE OUTPUT jacks (1 to 8): -2 dB / +0 dB (20k-ohms load, +4 dBu), PHONES jack: -3 dB/+0 dB (40-ohms load, 130 mW)
Total Harmonic Distortion + Noise	CONSOLE OUTPUT jacks: (1 to 8) 0.05 % (typ., +4 dBu) PHONES jack: 0.05 % (typ., 40-ohms load, 130 mW)
Dynamic Range	CONSOLE OUTPUT jacks (1 to 8): 110 dB (typ.)
Cross Talk @ 1 kHz	CONSOLE INPUT jacks (1 to 8): -80dB (Pad: ON, Input gain: +10 dBu, typ.), CONSOLE OUTPUT jacks (1 to 8): -100 dB (typ.)
Nominal Input Level (Variable)	CONSOLE INPUT jacks (1 to 8): -65 to -10 dBu (Pad: OFF) or -45 to +10 dBu (Pad: ON), STEREO IN jacks (L/R): -18 to 0 dBu, TALKBACK MIC IN jack: -50 to -10 dBu
Input Impedance	CONSOLE INPUT jacks (1 to 8): 14 k-ohms, STEREO IN jacks (L/R): 10 k-ohms, TALKBACK MIC IN jack: 41 k-ohms

Non Clip Maximum Input level	CONSOLE INPUT jacks (1 to 8): +8 dBu (Pad: OFF) or +28 dBu (Pad: ON), STEREO IN jacks (L/R): +18 dBu, TALKBACK MIC IN jack: +8 dBu
Nominal Output Level	CONSOLE OUTPUT jacks (1 to 8): +4 dBu (Load impedance: 10k-ohms)
Output Impedance	CONSOLE OUTPUT jacks (1 to 8): 600-ohms, PHONES jack: 100-ohms
Recommended Load Impedance	CONSOLE OUTPUT jacks (1 to 8): 10 k-ohms or greater, PHONES jack: 8-ohms or greater
Non Clip Maximum Output level	CONSOLE OUTPUT jacks (1 to 8): +22 dBu (1 kHz, 10k-ohms load), PHONES jack: 150 mW + 150 mW (1 kHz, 40-ohms load)
Residual Noise Level (IHF-A, typ.)	-88 dBu (All faders: Min)
Equivalent Input Noise Level (E.I.N.)	-126 dBu
Display	800 x 480 dots Wide VGA backlit TFT color
Power Supply	AC 115 V, AC 117 V, AC 220 V, AC 230 V, AC 240 V (50/60 Hz)
Power Consumption	75 W
Dimensions	[Desktop] 482.0 (W) x 581.3 (D) x 220.6 (H) mm 19 (W) x 22-15/16 (D) x 8-11/16 inches [Rack mount] 482.0 (W) x 231.3 (D) x 550.9 (H) mm 19 (W) x 9-1/8 (D) x 21-11/16 (H) inches * EIA-12U
Weight	14.0 kg, 30 lbs. 14 oz.

* XLR connector (1: GND, 2: Hot, 3: Cold)

* Phantom Power: DC +48V (Unloaded maximum), 14mA (Maximum load) (All XLR type inputs)

* When a REAC Splitter S-4000-SP or a switching hub is used in-line with REAC cables, the network latency will increase by the amount of processing delay introduced by the splitting device itself. The actual delay is dependent upon the specifications of the splitting device, though the maximum delay amount for a single splitting device should be about 200 microseconds.

* EtherCon is the registered trade mark of Neutric®

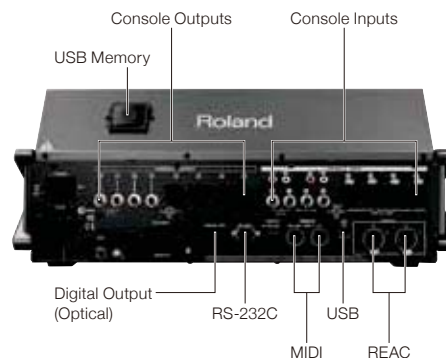
V-Mixer M-300 | Live Mixing Console

A powerful and compact digital mixing console

REAC

Roland
Wireless
Connect

V-LINK



- 32 mixing channels, L/C/R outputs, 8 AUX buses, 4 Matrices
- Built-in REAC ports allows flexible system expansion
- 4-band PEQ and dynamics on all channels
- 11 different built-in multi-effects/ PEQ and delay on all outputs
- 100 mm motorized faders
- 24bit AD/DA for high-quality sound remotely controllable from a PC
- Record to /playback from USB flash memory
- Perfectly integrates with the Digital Snake for simple and high-quality audio transmission, distribution, splits and merging
- Construct a flexible and powerful system by adding the Personal Mixing System, multi-channel recording and other REAC components

Version 1.5 Software Highlights

- 4 x 31-band mono GEQs
- New effects added to Effect Library
- Audio Cross Fade between Scene Changes
- Channel Screen for each DCA Group
- New User Account functionality
- Additional RS-232C commands
- Supports Roland Wireless USB Adapter and iPad Control App

USB memory recorder/player

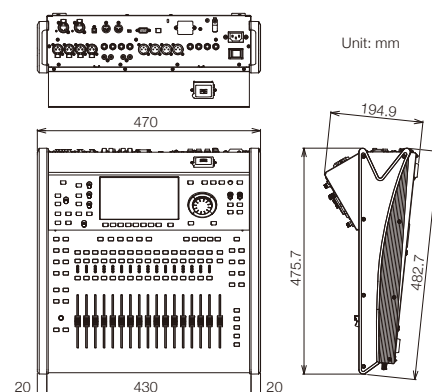


Record the output of the V-Mixer Main, assigned AUX bus or MATRIX bus directly to a USB memory drive connected to the built-in USB port. A mix produced with the V-Mixer is saved as an uncompressed WAV file, without the need for an external recorder. WAV files on the USB memory drive can also be played back on the V-Mixer and used for pre/post show music or background music/tracks. User settings and mixer data can also be saved to a USB memory drive. The USB recording function is available on all V-Mixer Consoles.

M-300 RCS - Remote control software for PC/Mac



Free download from
www.rolandsystemsgroup.net



Option



RA-10U
Rackmount Angle
Rackmountable to 19-inch rack (EIA)

M-300 Remote

Application for remotely controlling the Roland M-300 V-Mixer live mixing console.



Available on the
App Store

NEW

●Channel Strip



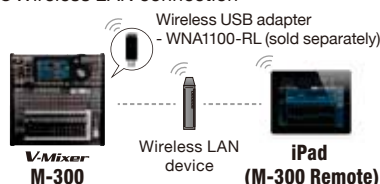
●Channel EQ



●Graphic EQ

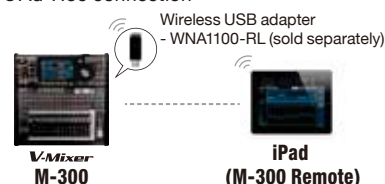


●Wireless LAN connection



Using a Wireless USB adapter, connect the M-300 to a wireless LAN device such as a router to establish a wireless connection with an iPad.

●Ad-Hoc connection



Connect the M-300 directly to an iPad without using wireless devices such as a router.

SPECIFICATIONS M-300

PROCESSING

Channels, Buses, I/O	MIXING CHANNEL: 32 channels BUSES: MAIN L/C/R, 8 AUX buses, 4 MATRIX buses INPUT: 12 ports (Max 92 ports when using REAC devices) OUTPUT: 10 ports (Max 90 ports when using REAC devices)
AD/DA Conversion	24-bit/48.0 kHz or 44.1 kHz
Network Latency	2.8 mS (typ.) * Total System Latency of audio signal from S-1608 inputs to outputs via M-300's REAC ports (A or B). * Sample Rate: 48.0 kHz * Effects: No insert effects

CONNECTORS

CONSOLE INPUT jacks (1 to 4)	XLR-3-31 type (balanced, phantom power)
CONSOLE INPUT jacks (5 to 8)	1/4 inch Phone type (balanced)
CONSOLE INPUT jacks (9 to 12)	RCA Pin type
CONSOLE OUTPUT jacks (1 to 4)	XLR-3-32 type (balanced)
CONSOLE OUTPUT jacks (5 to 8)	1/4 inch Phone type (balanced)
PHONES jack	Stereo 1/4 inch phone type
DIGITAL OUT jack	Optical type
REAC port	RJ-45 EtherCon type x 2
USB port	Type A x 1, Type B x 1
Remote Connectors	RS-232C connector: 9-pin D-sub type MIDI connectors (OUT/THRU, IN): 5-pin DIN type
Other Connectors	Grounding terminal AC INPUT connector

INPUT/OUTPUT CHARACTERISTICS

Frequency Response	CONSOLE OUTPUT jacks (1 to 8): -2 dB / +0 dB (20k ohms load, +4 dBu) PHONES jack: -3 dB / +0 dB (40 ohms load, 150 mW)
Total Harmonic Distortion + Noise	CONSOLE OUTPUT jacks (1 to 8): 0.05 % (typ., +4 dBu) PHONES jack: 0.05 % (typ., 40 ohms load, 130 mW)
Dynamic Range	CONSOLE OUTPUT jacks (1 to 8): 105 dB (typ.)

Cross Talk@ 1 kHz

CONSOLE INPUT jacks (1 to 4): -80dB (Pad: ON, Input sens: +4 dBu, typ.)
CONSOLE INPUT jacks (5 to 12): -80dB (Input sens: +4 dBu, typ.)
CONSOLE OUTPUT jacks (1 to 8): -100 dB (typ.)
* Sampling frequency is 48 kHz or 44.1 kHz.

Nominal Input Level (Variable)	CONSOLE INPUT jacks (1 to 4): -65 to -10 dBu (Pad: OFF) or -45 to +10 dBu (Pad: ON) CONSOLE INPUT jacks (5 to 12): -28 to +4 dBu
Input Impedance	CONSOLE INPUT jacks (1 to 4): 14 k ohms CONSOLE INPUT jacks (5 to 12): 10 k ohms
Non Clip Maximum Input level	CONSOLE INPUT jacks (1 to 4): +8 dBu (Pad: OFF) or +28 dBu (Pad: ON) CONSOLE INPUT jacks (5 to 12): +22 dBu
Nominal Output Level	CONSOLE OUTPUT jacks (1 to 8): +4 dBu (Load impedance: 10 k ohms)
Output Impedance	CONSOLE OUTPUT jacks (1 to 8): 600 ohms PHONES jack: 100 ohms
Recommended Load Impedance	CONSOLE OUTPUT jacks (1 to 8): 10 k ohms or greater PHONES jack: 8 ohms or greater
Non Clip Maximum Output level	CONSOLE OUTPUT jacks (1 to 8): +22 dBu (1 kHz, 10 k ohms load) PHONES jack: 150 mW + 150 mW (Typ., 1 kHz, 40 ohms load)
Residual Noise Level (IHF-A, typ.)	-88 dBu (All faders: Min)
Equivalent Input Noise Level (E.I.N.)	-126 dBu (Main Fader: Unity, Channel faders: Unity only one channel, Preamp gain: Max)
OTHERS	
Display	800 x 480 dots Wide VGA TFT color screen with backlight
Power Supply	AC 115 V, 117 V, 220 V, 230 V, 240 V (50/60 Hz)
Power Consumption	50 W
Dimensions	470.0 (W) x 482.7 (D) x 194.9 (H) mm 18-1/2(W) x 19(D) x 7-1/4(H) inches
Weight	9.8 kg 21 lbs 10 oz

(0dBu=0.775Vrms)

* XLR type: 1 GND, 2 HOT, 3: COLD

* phantom power: DC+48V(unloaded maximum), 14mA(maximum load) (All XLR type inputs)

* When a REAC Splitter S-4000D or a switching hub is used in-line with REAC cables, the network latency will increase by the amount of processing delay introduced by the splitting device itself. The actual delay is dependant upon the specifications of the splitting device, though the maximum delay amount for a single splitting device should be about 200microseconds.

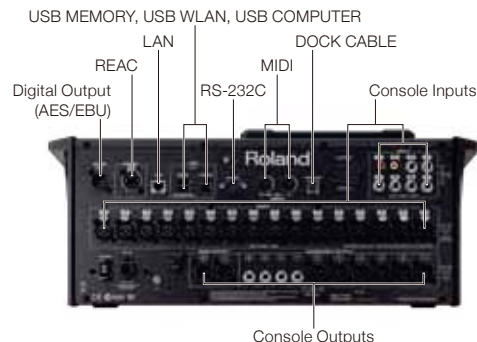
V-Mixer M-200i | Live Mixing Console

Comprehensive iPad Control Meets Professional Mixing Console

NEW



* iPad not included



REAC

Roland Wireless Connect

V-LINK

- 32-channel digital mixer (controllable with or without iPad)
- 17 motorized faders, dedicated buttons and knobs for key functions
- 24 onboard inputs and 14 outputs - expandable up to 64 x 54
- Fully featured, comprehensive iPad control for all major functions
- Wireless and wired iPad control (two at same time)
- Easily expandable to include personal mixing and multi-channel playback/record
- Multi-channel recording up to 40 channels

M-200i Remote - M-200i Remote Control Application for the iPad



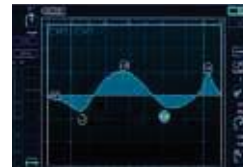
By simply installing the dedicated application, "M-200i Remote", you can control all key M-200i features from an iPad. Channel strips, channel EQ, channel dynamics, AUX SENDs, Scenes and other functions can be easily accessed. Use a simple swipe to move between channels. Make your faders longer for even more precise control. Visually drag, pinch or stretch EQ curves on a large screen.



● Channel Strip



● Channel EQ



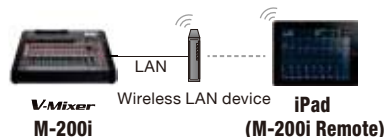
● Channel Edit



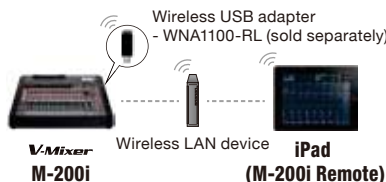
Three types of wireless connections

The M-200i and an iPad can be connected wirelessly by attaching the "WNA1100-RL" (sold separately) dedicated wireless USB adapter or connecting with a wireless LAN device directly.

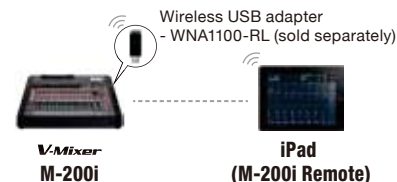
● Cable LAN connection



● Wireless LAN connection



● Ad-Hoc connection



Options

M-200i RCS

Remote Control Software
Free download from www.rolandsystemsgroup.net

WNA1100-RL

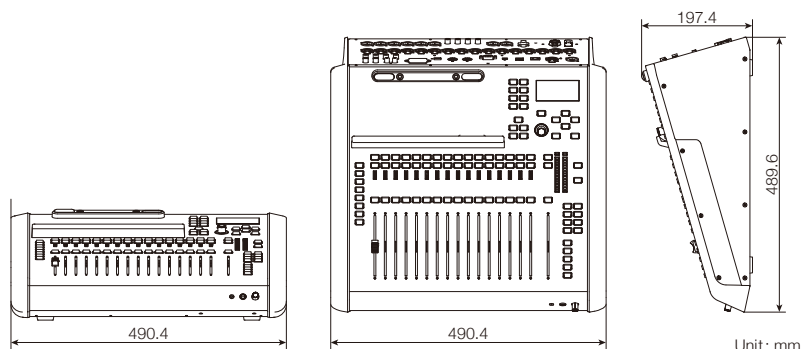
Wireless USB Adapter

M-UF2G

2 GB USB Flash Memory

RA-10U

Rackmount Kit



SPECIFICATIONS M200i

Processing	
Channels/Buses	CHANNELS: 32 BUSES: MAIN L/R, 8 AUX, 4 MATRIX
Inputs/Outputs	INPUTS: 24 (64 when using optional REAC devices) OUTPUTS: 14 (Max 54 ports when using REAC Devices)
Signal Processing	AD/DA Conversion: 24 bit Sample Rate: 48.0 kHz or 44.1 kHz
Console Latency	2.0 mS (typ.) *1 * Total Latency of audio signal from M-200i's console inputs to M-200i's outputs. * Sample Rate: 48.0 kHz * Effects: No insert effects
Network Latency	2.5 mS (typ.) *1 * Total System Latency of audio signal from S-1608 inputs to outputs via M-200i's REAC ports. * Sample Rate: 48.0 kHz * Effects: No insert effects
Connectors	
Inputs/Outputs/ Others	INPUT jacks (1 to 16): XLR-3-31 type (balanced, phantom power) INPUT jacks (17 to 22): 1/4 inch Phone type (balanced) INPUT jacks (23 to 24): RCA Phono type ASSIGNABLE OUTPUT jacks (1 to 6): XLR-3-32 type (balanced) ASSIGNABLE OUTPUT jacks (7 to 10): 1/4 inch Phone type (balanced) MAIN OUTPUT jacks (L, R): XLR-3-32 type (balanced) PHONES jacks: Stereo 1/4 inch phone type, Miniature phone type AES/EBU OUT jack: Optical type REAC port: RJ-45 EtherCon type RS-232C connector: 9-pin D-sub type MIDI connectors (OUT/THRU, IN): 5-pin DIN type USB MEMORY port: USB Type A USB WLAN ADAPTOR port: USB Type A USB COMPUTER port: USB Type B LAN port: RJ45 type DOC CABLE port: 10-pin mini DIN type DC IN jack Grounding terminal * XLR type: 1 GND, 2 HOT, 3: COLD * Phantom power: DC +48 V (unloaded maximum), 14 mA (maximum load, All XLR type inputs)
Input/Output Characteristics	
Frequency Response	ASSIGNABLE OUTPUT jacks (1 to 10): -2 dB/+0 dB (20k-ohms load, +4 dBu, typ.) MAIN OUTPUT jacks (L, R): -2 dB/+0 dB (20k-ohms load, +4 dBu, typ.) PHONES jack: -3 dB/+0 dB (40 ohms load, 150 mW, typ.) * Sample Rate: 48.0 kHz or 44.1 kHz * Input Connector: INPUT 1 to 24 (Pad: ON, Input sens: +4 dBu, 20 Hz to 20 kHz)
Total Harmonic Distortion + Noise	ASSIGNABLE OUTPUT jacks (1 to 10): 0.05 % (+4 dBu, typ.) MAIN OUTPUT jacks (L, R): 0.05 % (+4 dBu, typ.) PHONES jack: 0.05 % (40 ohms load, 150 mW, typ.) * Sample Rate: 48.0 kHz or 44.1 kHz * Input Connector: INPUT 1 to 24 (Input sens: +4 dBu, 20 Hz to 20 kHz)

Dynamic Range	ASSIGNABLE OUTPUT jacks (1 to 10): 102 dB (typ.) MAIN OUTPUT jacks (L, R): 102 dB (typ.) * Sample Rate: 48.0 kHz or 44.1 kHz * Input Connector: INPUT 1 to 24 (Input sens: +4 dBu, 20 Hz to 20 kHz)
Crosstalk @ 1 kHz	INPUT jacks (1 to 24): -80 dB (Input sens: +4 dBu, IHF-A, typ.) ASSIGNABLE OUTPUT jacks (1 to 10): -88 dB (typ.) MAIN OUTPUT jacks (L, R): -88 dB (typ.) * Sample Rate: 48.0 kHz or 44.1 kHz
Nominal Input Level (Variable)	INPUT jacks (1 to 16): -65 to +4 dBu INPUT jacks (17 to 24): -28 to +4 dBu
Input Impedance	INPUT jacks (1 to 16): 14 k-ohms INPUT jacks (17 to 24): 10 k-ohms
Non Clip Maximum Input level	INPUT jacks (1 to 24): +22 dBu (1 kHz, 20 k-ohms load, typ.)
Nominal Output Level	ASSIGNABLE OUTPUT jacks (1 to 10): +4 dBu (Load impedance: 10 k-ohms, typ.) MAIN OUTPUT jacks (L, R): +4 dBu (Load impedance: 10 k-ohms, typ.)
Output Impedance	ASSIGNABLE OUTPUT jacks (1 to 10): 600 ohms (typ.) MAIN OUTPUT jacks (L, R): 600 ohms (typ.) PHONES jack: 49 ohms (typ.)
Recommended Load Impedance	ASSIGNABLE OUTPUT jacks (1 to 10): 10 k-ohms or greater MAIN OUTPUT jacks (L, R): 10 k-ohms or greater PHONES jack: 40 ohms or greater
Minimum Load Impedance	PHONES jack: 16 ohms
Non Clip Maximum Output level	ASSIGNABLE OUTPUT jacks (1 to 10): +22 dBu (1 kHz, 10 k-ohms load, typ.) MAIN OUTPUT jacks (1 to 10): +22 dBu (1 kHz, 10 k-ohms load, typ.) PHONES jack: 150 mW + 150 mW (1 kHz, 40 ohms load, typ.)
Others	
Display	Graphic LCD 132 x 64 dots with backlight
Current Draw	3.6 A
Dimensions	Desktop: 491 (W) x 490 (D) x 198 (H) mm Desktop: 19-3/8 (W) x 19-5/16 (D) x 7-13/16 (H) inches
Weight	9.8 kg, 21 lbs 10 oz
Accessories	DOCK CABLE, TABLET STAND, AC Adaptor, Power Cord, Owner's Manual

(0dBu=0.775Vrms)

*1: When a REAC Splitter S-4000D or a switching hub is used in-line with REAC cables, the network latency will increase by the amount of processing delay introduced by the splitting device itself. The actual delay is dependant upon the specifications of the splitting device, though the maximum delay amount for a single splitting device should be no more than 200 microseconds.

Digital Snake S-4000 series

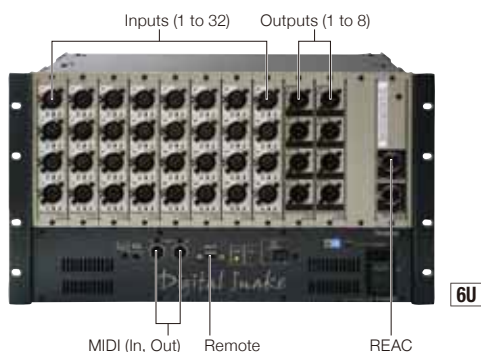
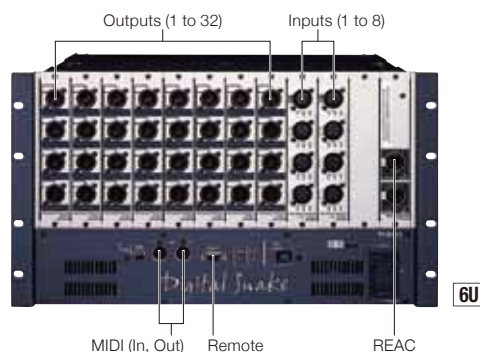
S-4000S-3208 | 32 x 8 Modular Stage Unit

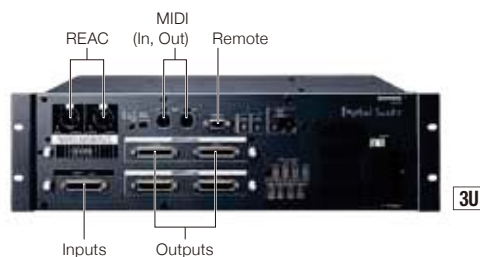
S-4000S-0832 | 8 x 32 Modular Stage Unit

S-4000H | 8 x 32 FOH Unit

S-4000R | Remote Controller

Simple and flexible digital snake units provide superb sound quality

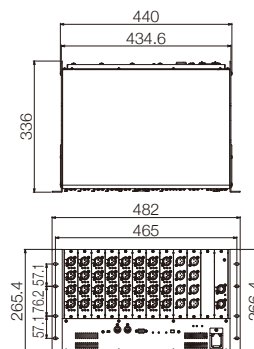
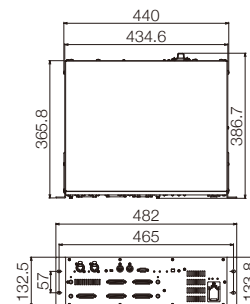
REAC
S-4000S-3208 Front Panel

S-4000S-0832 Front Panel

S-4000S-3208/0832 Rear Panel

S-4000H Front Panel

S-4000R Top Panel

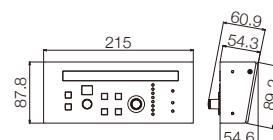
S-4000R Rear Panel

S-4000H Rear Panel


- Superb quality pre-amps on each input channel
- S-4000S-3208/S-4000S-0832 can be used as I/O units of a V-Mixer for full digital mixing system
- S-4000S-3208 with S-4000H or S-4000S-0832 enables configuration of an individual digital transfer system
- Two REAC ports (one primary, one redundant) provide system reliability
- RS-232C interface for S-4000R Remote Controller or computer control
- MUTE ALL OUTPUTS button for noise-free connection of audio sources
- Connection port for optional redundant power supply (S-240P)
- S-4000R provides easy remote control of all input gain adjustments, phantom power and PAD settings

S-4000S-3208/0832 Dimensions

S-4000H Dimensions


Unit: mm

S-4000R Dimensions


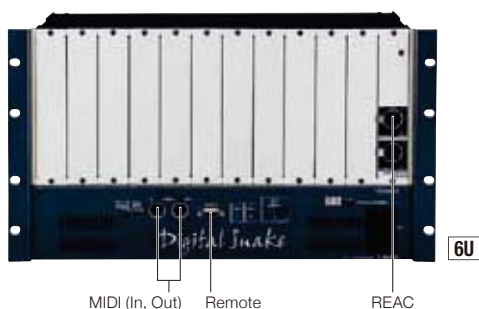
Digital Snake S-4000 series

S-4000S-MR | Digital Snake Modular Rack Chassis | **SI-AD4** | 4-channel Analog Input Module | **SO-DA4** | 4-channel Analog Output Module
SI-AES4 | 4-channel Digital Input Module | **SO-AES4** | 4-channel Digital Output Module | **S-240P** | External Power Supply Unit

High quality options provide system flexibility



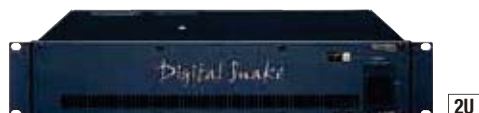
■ S-4000S-MR Front Panel



■ S-4000S-MR Rear Panel



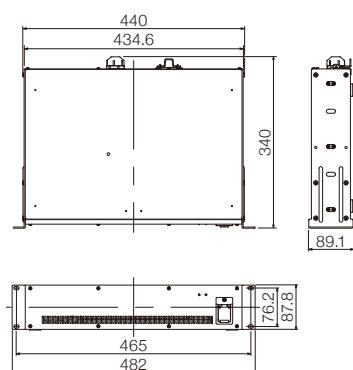
■ S-240P Front Panel



■ S-240P Rear Panel

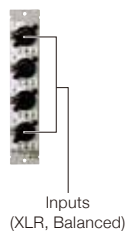


■ S-240P Dimension

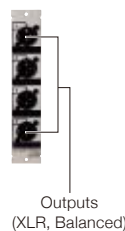


Unit: mm

■ SI-AD4



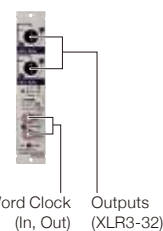
■ SO-DA4



■ SI-AES4



■ SO-AES4



■ S-4000S-MR is modular rack chassis with no pre-installed In/Out modules; Designed for custom configurations such as 24x16 and 40x0

■ SI-AD4 - 4-Channel Analog Input Module provides high quality pre-amps on each input channel with phantom power

■ SO-DA4 - 4-Channel Analog Output Module provides high quality D/A converter

■ SI-AES4 - 4-Channel Digital Input Module allows input of up to 96 kHz AES/EBU signal using the built-in sampling rate converter

* No support for double wire

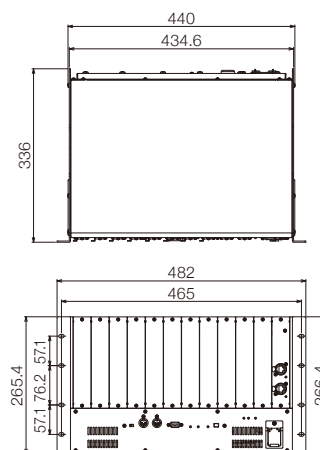
■ SO-AES4 - 4-Channel Digital Output Module allows output of up to 96 kHz AES/EBU signal using the built-in sampling rate converter, and also supports synchronization with an external word clock

* No support for double wire

■ S-240P supplies redundant DC power to an S-4000S or S-4000H; Outputs DC 24 V 6 A power

* S-4000S-MR can be customized in blocks of 8 channels when combined with the modules from the SI/SO series, which have both analog and digital I/O. Audio transmission and power supply redundancy is possible.

■ S-4000S-MR Dimension



Unit: mm

Digital Snake S-4000 series

SPECIFICATIONS S-4000S-3208

Number of Channels	32 inputs/8 outputs	Equivalent Input Noise Level (E.I.N.)	-128 dB
AD/DA Conversion	24-bit/44.1 kHz, 48 kHz, 96 kHz	Network Latency	375 microseconds when using REAC cable only (AD - REAC - DA Latency: about 1.2 ms)
Frequency Response	-2 dB/+0 dB (@ +4 dBu, 20 Hz to 20 kHz)	Memory	10
Total Harmonic Distortion + Noise	0.05 % or less (Pad: On, Input Gain: +4 dBu, 22 to 20 kHz)	Connectors	Input: 32 (XLR type, balanced, phantom power, 4 ch input module x 8), Output: 8 (XLR type, balanced, 4 ch output module x 2), REAC: MAIN, BACKUP (RJ-45 EtherCon type), Remote Connector: 1 (RS-232C, DB-9 type), MIDI Connectors: IN, OUT (5-pin DIN type)
Dynamic Range	110 dB	AC Power Supply	AC 115 V, 117 V, 220 V, 230 V, 240 V (50/60 Hz)
Cross Talk	-80 dB	Power Consumption	130 W
Nominal Input Level	-65 to -10 dBu (PAD: Off), -45 to +10 dBu (PAD: On) (1 dB step, Max. +28 dBu)	Phantom Power	+48 V/14 mA (each input on SI-AD4, remote controlled)
PAD	20 dB On/Off	Dimensions	482 (W) x 336 (D) x 266 (H) mm 19 (W) x 13-1/4 (D) x 10-1/2 (H) inches
Input Impedance	20 k-ohms	Weight	17.0 kg, 37 lbs. 8 oz.
Nominal Output Level	+4 dBu (Max. +22 dBu)		
Output Impedance	150-ohms		
Recommended Load Impedance	10 k-ohms or greater		
Residual Noise Level (IHF-A, typ.)	-90 dBu		

SPECIFICATIONS S-4000S-0832

Number of Channels	8 inputs/32 outputs	Equivalent Input Noise Level (E.I.N.)	-128 dB
AD/DA Conversion	24-bit/44.1 kHz, 48 kHz, 96 kHz	Network Latency	375 microseconds when using REAC cable only (AD - REAC - DA Latency: about 1.2 ms)
Frequency Response	-2 dB/+0 dB (@ +4 dBu, 20 Hz to 20 kHz)	Memory	10
Total Harmonic Distortion + Noise	0.05 % or less (Pad: On, Input Gain: +4 dBu, 22 to 20 kHz)	Connectors	Input: 8 (XLR type, balanced, phantom power, 4 ch input module x 2), Output: 32 (XLR type, balanced, 4 ch output module x 8), REAC: MAIN, BACKUP (RJ-45 EtherCon type), Remote Connector: 1 (RS-232C, DB-9 type), MIDI Connectors: IN, OUT (5-pin DIN type)
Dynamic Range	110 dB	AC Power Supply	AC 115 V, 117 V, 220 V, 230 V, 240 V (50/60 Hz)
Cross Talk	-80 dB	Power Consumption	130 W
Nominal Input Level	-65 to -10 dBu (PAD: Off), -45 to +10 dBu (PAD: On) (1 dB step, Max. +28 dBu)	Phantom Power	+48 V/14 mA (each input on SI-AD4, remote controlled)
PAD	20 dB On/Off	Dimensions	482 (W) x 336 (D) x 266 (H) mm 19 (W) x 13-1/4 (D) x 10-1/2 (H) inches
Input Impedance	20 k-ohms	Weight	17.0 kg, 37 lbs. 8 oz.
Nominal Output Level	+4 dBu (Max. +22 dBu)		
Output Impedance	150-ohms		
Recommended Load Impedance	10 k-ohms or greater		
Residual Noise Level (IHF-A, typ.)	-90 dBu		

SPECIFICATIONS S-4000H

Number of Channels	8 inputs/32 outputs	Equivalent Input Noise Level (E.I.N.)	-128 dB
AD/DA Conversion	24-bit/44.1 kHz, 48 kHz, 96 kHz	Network Latency	375 microseconds when using REAC cable only (AD - REAC - DA Latency: about 1.2 ms)
Frequency Response	-2 dB/+0 dB (@ +4 dBu, 20 Hz to 20 kHz)	Memory	10
Total Harmonic Distortion + Noise	0.05 % or less (Input Gain: +4 dBu, 22 to 20 kHz)	Connectors	Input: 1 (DB-25 type, balanced, 8-channels), Output: 4 (DB-25 type, balanced, 32-channels each), REAC: MAIN, BACKUP (RJ-45 EtherCon type), Remote Connector: 1 (RS-232C, DB-9 type), MIDI Connectors: IN, OUT (5-pin DIN type)
Dynamic Range	110 dB	Power Supply	AC 115 V, 117 V, 220 V, 230 V, 240 V (50/60 Hz)
Cross Talk	-80 dB	Power Consumption	70 W
Nominal Input Level	+4 dBu (Max. +22 dBu)	Dimensions	482 (W) x 387 (D) x 133 (H) mm 19 (W) x 15-1/4 (D) x 5-1/4 (H) inches
Input Impedance	30 k-ohms	Weight	9.4 kg, 20 lbs. 12 oz.
Nominal Output Level	+4 dBu (Max. +22 dBu)		
Output Impedance	600-ohms		
Recommended Load Impedance	10 k-ohms or greater		
Residual Noise Level (IHF-A, typ.)	-90 dBu		

SPECIFICATIONS S-4000R

Connector	Remote Connector: 1 (RS-232C, DB-9 type)	Dimensions	215 (W) x 87 (D) x 55 (H) mm 8-1/2 (W) x 3-7/16 (D) x 2-3/16 (H) inches
Power Supply	Supplied from connected device. (S-4000S, S-4000H; through the remote cable)	Weight	0.8 kg, 1 lbs. 13 oz.

SPECIFICATIONS S-4000S-MR

Connectors	REAC: MAIN, BACKUP (RJ-45 EtherCon type), Remote Connector: 1 (RS-232C, DB-9 type), MIDI Connectors: IN, OUT (5-pin DIN type)	Memory	10
Network Latency	375 microseconds when using REAC cable only (AD - REAC - DA Latency: about 1.2 ms)	Power Supply	AC 115 V, 117 V, 220 V, 230 V, 240 V (50/60 Hz)
		Power Consumption	130 W
		Dimensions	482 (W) x 336 (D) x 266 (H) mm 19 (W) x 13-1/4 (D) x 10-1/2 (H) inches

S-1608

Stage Unit

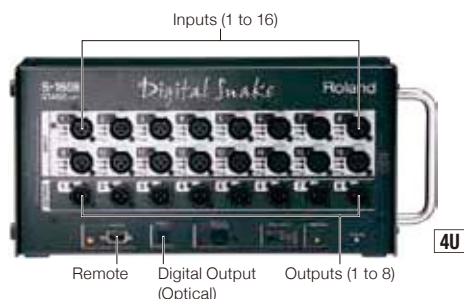
S-0816

FOH Unit

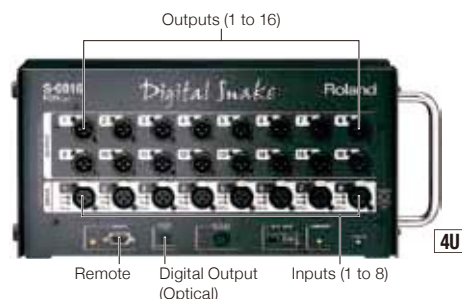
Compact and portable, 16x8 Digital Snake offers many flexible configurations for any installation

REAC

■ S-1608 Front Panel



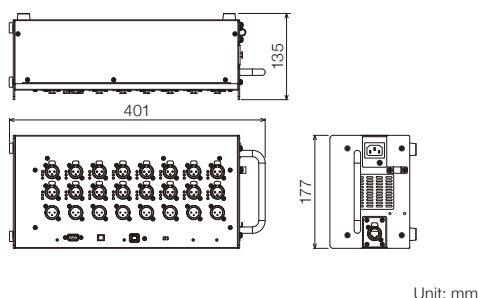
■ S-0816 Front Panel



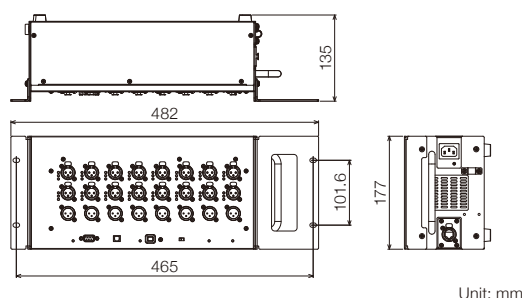
- 16 x 8 Ch high quality 24-bit/96 kHz digital audio transmission via Cat5e cable
- Compact, floor-based or rack-mountable design
- REAC low latency digital audio transmission system

- Connect as I/O unit of V-Mixer for full digital mixing system
- Remote controllable preamps using an S-4000R or free downloadable RCS software for PC
- Easy and affordable splits and recording options

■ S-1608/S-0816 dimension



■ S-1608/S-0816 with rack mount bracket dimension



SPECIFICATIONS S-1608/S-0816

Number of Channels	S-1608: 16 inputs/8 Outputs S-0816: 8 Inputs/16 Outputs
AD/DA Conversion	24-bit/44.1 kHz, 48 kHz, 96 kHz
Frequency Response	-2 dB/+0 dB (@ +4 dBu, 20 Hz to 20 kHz)
Total Harmonic Distortion + Noise	0.05 % or less (PAD: On, Input Gain: +4 dBu, 22 Hz to 20 kHz)
Dynamic Range	110 dB
Cross Talk	-80 dB or less (Input Gain: +4 dBu, typ.)
Nominal Input Level	-65 to -10 dBu (PAD: Off), -45 to +10 dBu (PAD: On) (1 dB step, Max. +28 dBu)
PAD	20 dB On/Off
Input Impedance	14 k-ohms
Nominal Output Level	+4 dBu (Max. +22 dBu)
Output Impedance	600-ohms
Recommended Load Impedance	10 k-ohms or greater
Residual Noise Level (IHF-A, typ.)	-80 dBu or less
Equivalent Input Noise Level	-128 dB
Network Latency	375 microseconds when using REAC cable only (AD - REAC - DA Latency: approx 1.2 ms)

S-1608 Connectors	Input: 16 (XLR type, balanced, phantom power), Output: 8 (XLR type, balanced), Digital Output connector: 1 (Optical type), REAC Connector: 1 (RJ-45 EtherCon type), Remote Connector: 1 (RS-232C, DB-9 type)
S-0816 Connectors	Inputs: 8 (XLR type, balanced, phantom power), Outputs: 16 (XLR type, balanced), Digital Output connector: 1 (Optical type), REAC Connector: 1 (RJ-45 EtherCon type), Remote Connector: 1 (RS-232C, DB-9 type)
Power Supply	AC 115 V, 117 V, 220 V, 230 V, 240 V (50/60 Hz)
Power Consumption	45 W
Phantom Power	+48 V (each input, remote controlled)
Dimensions	401.0 (W) x 135.0 (D) x 177.0 (H) mm 15-13/16 (W) x 5-3/8 (D) x 7 (H) inches
Weight	5.5 kg, 12 lbs. 3 oz. (Including rack mount bracket)

* When a REAC Splitter S-4000D or a switching hub is used in-line with REAC cables, the network latency will increase by the amount of processing delay introduced by the splitting device itself. The actual delay is dependant upon the specifications of the splitting device, though the maximum delay amount for a single splitting device should be about 200 microseconds.

S-0808

8 x 8 I/O Unit

Enjoy flexibility using external battery operation or power supplied over REAC

REAC



■ Compact and light weight 8 input/8 output Digital Snake

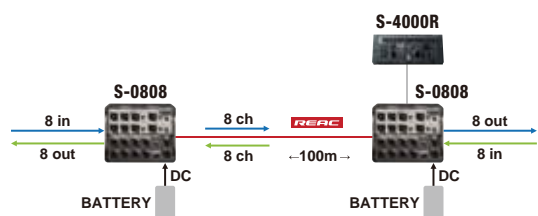
■ High quality, fully discreet preamp

■ Eliminate the need for direct boxes by using the TRS or Hi-Z inputs

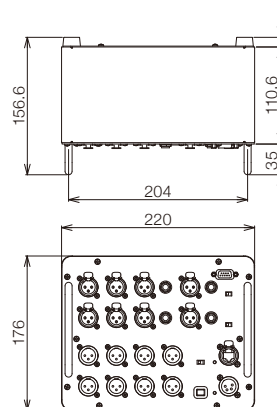
■ Power options – REAC Embedded Power and External Battery enabling a variety of setups

■ Preamp gain, PAD and Phantom Power can be controlled by S-4000R, S-4000RCS software and V-Mixer M-480/M-380

Battery-Powered 8 x 8 Snake



An 8 input, 8 output simple digital snake system – ideal when AC power is not convenient or available.



Unit: mm

SPECIFICATIONS S-0808

Number of Channels	8 inputs/8 outputs
AD/DA Conversion	24-bit/44.1 kHz, 48 kHz, 96 kHz
Frequency Response	-2 dB/+0 dB (@ +4 dBu, 20 Hz to 20 kHz)
Total Harmonic Distortion + Noise	0.04 % or less (PAD: On, Input Gain: +4 dBu, 22 Hz to 20 kHz)
Dynamic Range	110 dB
Cross Talk	-80 dB or less (Input Gain: +4dBu, typ.)
Nominal Input Level	-65 to -10 dBu (PAD: Off), -45 to +10 dBu (PAD: On) (1 dB step, Max.+28 dBu)
PAD	20 dB On/Off
Input Impedance	7 k-ohms
Nominal Output Level	+4 dBu (Max.+22 dBu)
Output Impedance	600-ohms
Recommended Load Impedance	10k-ohms or greater
Residual Noise Level (IHF-A, typ.)	-80 dBu or less
Equivalent Input Noise Level	-128 dB
Network Latency	375 microseconds when using REAC cable only (AD - REAC - DA Latency: approx 1.2 ms)

Connectors	Input 1 to 8 (XLR type, balanced, phantom power), Input 5 to 8 (TRS Phone type, balanced), Output 1 to 8 (XLR type, balanced), REAC Embedded Power x 1 (RJ-45 EtherCon type), Remote Connector x 1 (RS-232C, DB-9 type), DC Input x 1 (XLR 4-pin type, Supports DC 12 to 18 V)
Power Supply	External Battery (DC 12 to 18 V) or REAC Embedded Power
Power Consumption	26 W (DC 12 V)
Phantom Power	+48 V/Max. 14mA (each input, remote controlled)
Dimensions	220 (W) x 176 (D) x 156.6 (H) mm 8-11/16 (W) x 6-15/16 (D) x 6-3/16 (H) inches
Weight	2.9 kg, 6 lbs. 7 oz.

* TRS takes priority if XLR and TRS are simultaneously input to INPUT 5 to 8.

* TRS of INPUT 7/8 turns to unbalanced when Hi-Z is turned on.

* When a REAC Splitter S-4000D or a switching hub is used in-line with REAC cables, the network latency will increase by the amount of processing delay introduced by the splitting device itself. The actual delay is dependant upon the specifications of the splitting device, though the maximum delay amount for a single splitting device should be about 200 microseconds

S-MADI

REAC MADI Bridge

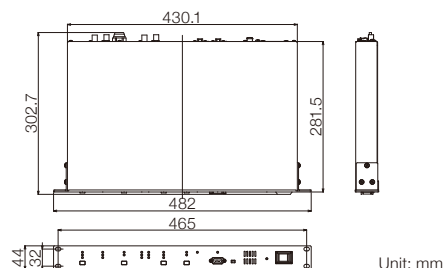
Expand audio system possibilities with REAC and MADI

REAC

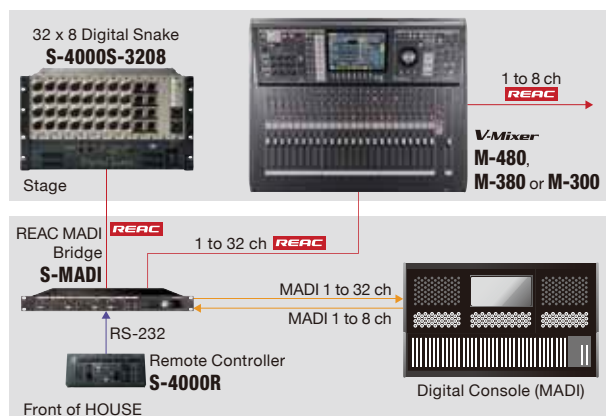
1U



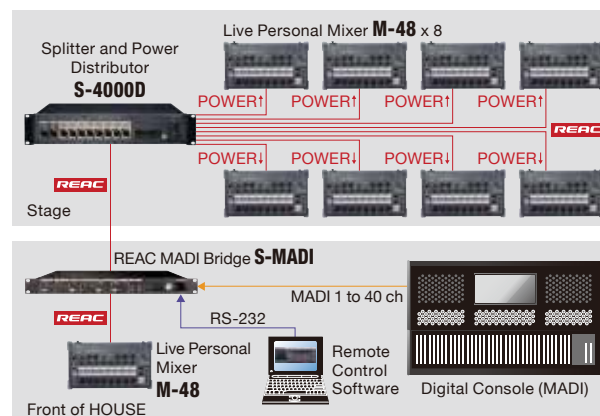
- Bi-directional format conversion between REAC and MADI
- BNC and Optical MADI ports
- Supports REAC Embedded Power and Split out for connecting and power additional devices (e.g., M-48 Personal Mixer, S-0808)
- Support for 44.1/48kHz
- Preamp and personal mixing control with S-4000RCS (Remote Control Software)
- Clock source can be selected from REAC, MADI or Word Clock



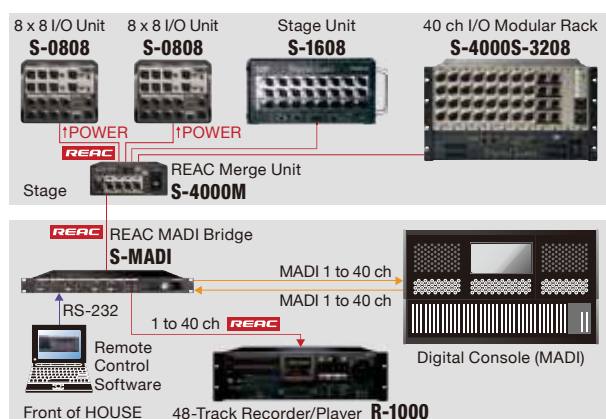
Digital Snake with Monitor Position



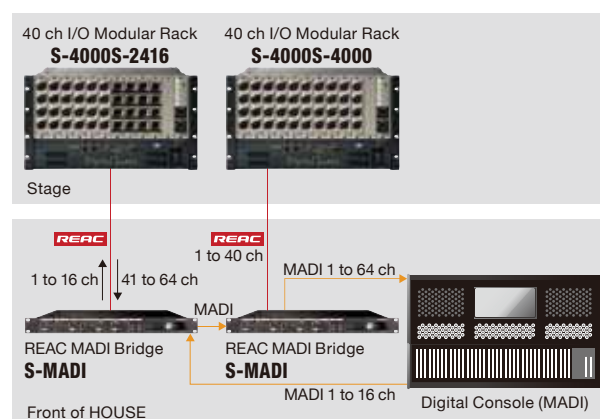
Personal Mixing



Digital Snake (Merge) and Recording



Digital Snake - 64 x 16



SPECIFICATIONS S-MADI

Sampling Frequency	48 kHz/44.1 kHz
MADI Channel Mode	64 Ch/56 Ch
Connectors	Front Panel: REMOTE (D-sub 9-pin type, RS-232C) Rear Panel: REAC MAIN (RJ-45 EtherCon type), REAC SPLIT OUT (REAC EMBEDDED POWER, RJ-45 EtherCon type), WORD CLOCK IN (BNC type), WORD CLOCK OUT (BNC type), Coaxial MADI IN (BNC type), Coaxial MADI OUT (BNC type), Optical MADI IN/OUT (SC duplex type)

Power Supply	AC 115 V, AC 117 V, AC 220 V, AC 230 V, AC 240 V (50/60 Hz)
Current Draw	0.7 A (REAC Embedded Power: Maximum)
Dimensions	482.0 (W) x 302.7 (D) x 44.0 (H) mm 19 (W) x 11-15/16 (D) x 1-3/4 (H) inches
Weight	3.5 kg/7 lbs 12 oz

S-4000M | REAC Merge Unit

Enables distributed input/output possibilities by merging up to four REAC devices

REAC



- Merge up to 4 REAC devices into a single REAC stream
- Power REAC devices supporting embedded power
- Automatically assign input channels using the Auto Map function
- Patch input and output assignments using S-4000RCS software or the V-Mixer
- Configure and power up to four S-0808 Digital Snakes for a 16 input x 16 output point-to-point snake system

S-OPT | REAC Optical Converter

Enjoy long distance REAC audio transfer

REAC



- Converts multi-channel REAC signal to a digital optical signal
- Up to 2 km distance transfer
- Rugged, Neutrik® OpticalCon connectors provide highest possible system reliability

* Use Neutrik's Mobile Fiber Cable for optical single transfer.

W100S-R | REAC Cable

100 meter Cat5e Cable for REAC signal transmission on reel

REAC



- Crossover Ethernet cable with Neutrik® Ethercon connectors on both ends
- Compact and lightweight cable reel with SC-W100S cable pre-rolled

SC-W100S/SC-W20F | REAC Cable

100/20 meter Cat5e Cable for REAC signal transmission

REAC



- Crossover Ethernet cable with Neutrik® Ethercon connectors on both ends

S-4000D | REAC Splitter and Power Distributor

A REAC Splitter that supplies audio and embedded power to M-48 or S-0808

REAC



2U

- Equipped with 10 REAC ports including 8 ports of REAC Embedded Power
- Automatic detection of REAC products. Power is not supplied if the device is not compatible with REAC Embedded Power

RH-PM5 | In-ear Monitors

Tuned and designed for stage and studio performance



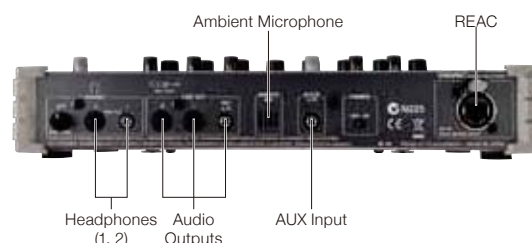
- High quality and detailed sound articulation for on-stage and studio monitoring
- Heavy duty aluminum construction to handle the rigors of stage usage
- 4 different types of ear adapters (S/M/L/XL) along with carrying case

M-48

Live Personal Mixer

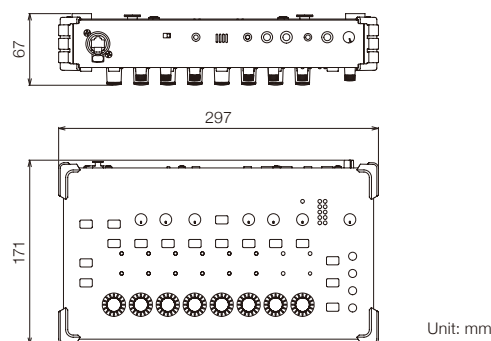
The “next generation” live personal mixer offers musicians the flexibility to control exactly what they want to listen to

REAC

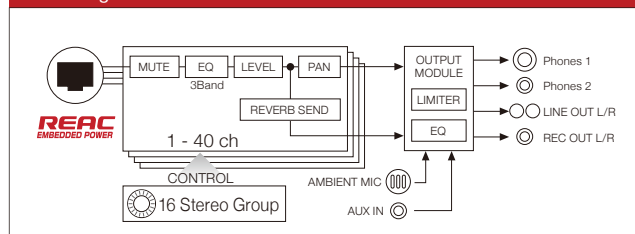


- Enables control of up to 40 audio channels via 16 stereo groups
- Provides the highest level of sound monitoring quality for both headphones and IEMs (In-ear Monitors) as well as for wedge and powered monitors
- Built-in ambient mic aids in communicating with other musicians as well as enabling a stage/room “presence”

- REAC Embedded Power transfers both power and 40 channels of audio to the M-48 via a single Cat5e/6 cable
- Volume, Pan, 3-band EQ and built-in Reverb per group – all instantly adjustable by convenient encoder knobs



Block Diagram



M-48 Setup

- A complete Monitoring System with the V-Mixer
The V-Mixer is equipped with all the remote management software, memory recall, providing a simple and flexible setup.

Setup Display



Source Assignment



- Connect to an existing Analog/Digital Console
Connect M-48s to your existing console using a Digital Snake front-end or the S-MADI for MADI capable digital consoles.



Setup and manage the M-48 on PC using the S-4000RCS Remote Control Software when using with an existing console.

SPECIFICATIONS M-48

Number of Input Channels	43 (40 in, STEREO AUX in, 1 AMBIENT MIC in)
Number of Output Channels	4 (STEREO LINE out, STEREO PHONES out)
AD/DA Conversion	24-bit/96.0 kHz, 48.0 kHz, 44.1 kHz
Nominal Input Level	AUX IN L/R: -16 dBu (at max volume)
Input Impedance	AUX IN L/R: 10 k-ohms
Non Clip Maximum Input level	AUX IN L/R: +2 dBu
Nominal Output Level	LINE OUT L/R: -6 dBu (LINE OUT Vol: Unity, Load impedance: 10 k-ohms), LINE OUT REC L/R: -12 dBu (LINE OUT Vol: Unity, Load impedance: 10 k-ohms)
Output Impedance	PHONES jacks (1, 2): 10 ohms LINE OUT L/R jacks: 600 ohms LINE OUT REC L/R jack: 1 k ohms
Recommended Load Impedance	PHONES jacks (1, 2): 16-ohms or greater (Composition impedance of 1 and 2), LINE OUT L/R jacks: 10 k-ohms or greater, LINE OUT REC L/R jack: 10 k-ohms or greater

Non Clip Maximum Output level	PHONES jacks (1, 2): 250 mW + 250 mW (1 or 2, 1 kHz, 40-ohms load), LINE OUT L/R jacks: +12 dBu (1 kHz, 10 k-ohms load), LINE OUT REC L/R jack: +6 dBu (1 kHz, 10 k-ohms load)
Connectors	REAC port: RJ-45 EtherCon type AUX IN L/R jack: Stereo miniature phone type LINE OUT L/R jacks: 1/4-inch TRS phone type LINE OUT REC L/R jack: Stereo miniature phone type PHONES jacks: Stereo miniature phone type and Stereo 1/4-inch phone type
Power Supply	REAC Embedded Power (S-4000D or S-4000M is needed for supplying power)
Power Consumption	13 W
Dimensions	297 (W) x 171 (D) x 67 (H) mm 11-3/4 (W) x 6-3/4 (D) x 2-11/16 (H) inches
Weight	1.5 kg, 3 lbs. 5

R-1000

48-Track Recorder/Player

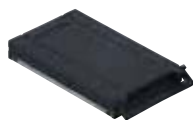
Capture. Playback. Soundcheck. Rehearse.
Ideally suited for many configurations and applications

REAC

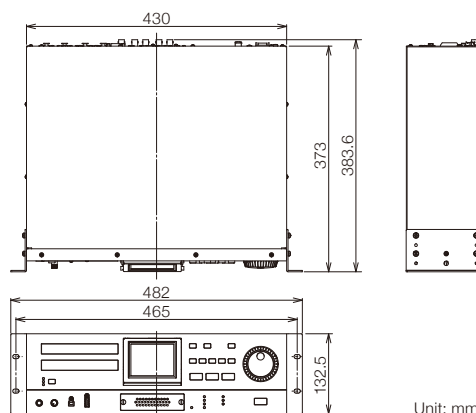


- Records up to 48 tracks of 24-bit audio in BWF (WAV format)
- Approximately 20 hours recording (44.1/48 kHz) using the removable 500GB HDD
- Removable HDD ensures smooth integration with any DAW such as SONAR
- Plays up to 48 tracks of 24-bit audio via REAC
- Easy and intuitive operation using Built-in LCD monitor, any V-Mixer or a PC/Mac with R-1000RCS software

Option

**HDD-500G**

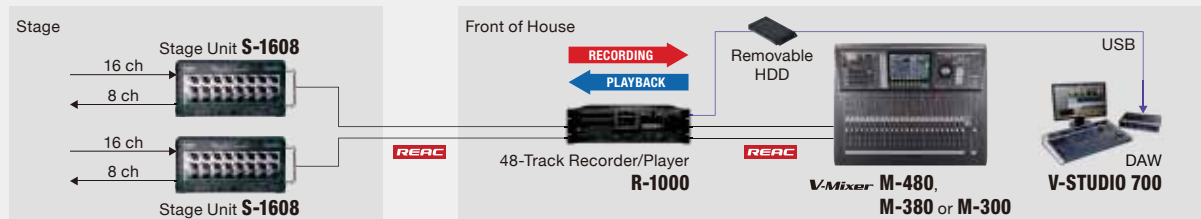
HARD DISK DRIVE UNIT (500GB)
Dedicated removable hard disk drive
for 20 hours recording (44.1/48kHz)



System Example

The R-1000 is a 48-channel multi-track recording and playback system for live concerts and productions. Utilizing the benefit of bi-directional audio with REAC, the R-1000 can be connected between the V-Mixer and the Digital Snake for recording, sound check, rehearsals and training exercises without the need to repatch.

Recording, Sound Check, Backing Track & Playback System (V-Mixer)



* Recording and Playback can not be done simultaneously.

SPECIFICATIONS R-1000

Tracks	48 maximum (44.1/48.0 kHz), 24 maximum (96.0 kHz)
DA Conversion	Sample Rate: 44.1/48.0/96.0 kHz, Signal Processing: 24 bits
Data type	BWF (Broadcast Wave Format) Sample Rate: 44.1/48.0/96.0 kHz Bit Depth: 24 bits
Media	Removable hard disk
Connectors	USB connector (EXTERNAL STORAGE): USB type A (Support mass storage) USB connector (PC): USB type B (Support USB-MIDI) MONITOR OUT jacks (1, 2): XLR-3-32 type (Balanced) PHONES jack: Stereo 1/4 inch phone type REAC ports (A, B, C, D): RJ-45 EtherCon type RS-232C connector: 9-pin D-sub type MIDI connectors (IN, OUT/THRU): 5-pin DIN type GPI jack: 1/4-inch phone type VIDEO SYNC (BLACK BURST) jacks (IN/THRU): BNC type WORD CLOCK jacks (IN/THRU): BNC type SMPTE (LTC) IN jack: BNC type Grounding terminal AC INPUT connector * XLR type: 1 GND, 2 HOT, 3: COLD

Recording Time	24 bit/44.1 kHz/48 Tracks: 500 GB/1300 min 24 bit/48.0 kHz/48 Tracks: 500 GB/1200 min 24 bit/96.0 kHz/24 Tracks: 500 GB/1200 min * These recording times are approximate. Your actual results may vary somewhat. * If multiple projects and songs exists, the total recordable time will be less than these.
Display	320 x 240 dots backlit TFT color touch screen
Power Supply	AC 115 V, AC 117 V, AC 220 V, AC 230 V, AC 240 V (50/60 Hz)
Dimensions	482.0 (W) x 383.6 (D) x 132.5 (H) mm 19 (W) x 15-1/8 (D) x 5-1/4 (H) inches
Weight	7.3 kg, 16 lbs 2 oz.

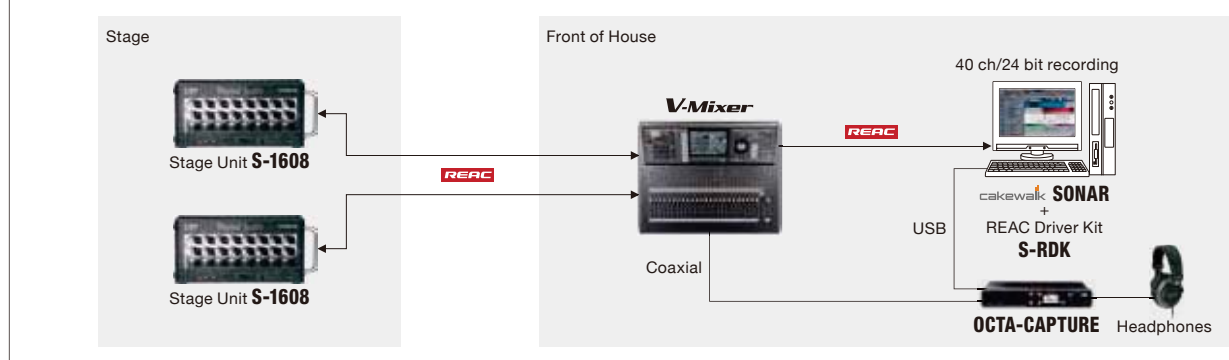
S-RDK

REAC Driver Kit Ver.2.0

The REAC Driver Kit enables recording of
40 simultaneous audio tracks into SONAR X2 software
via one Cat5e/6 cable from a REAC System to a PC Ethernet Port

REAC

System Example with V-Mixing System



Compatibility of REAC Driver

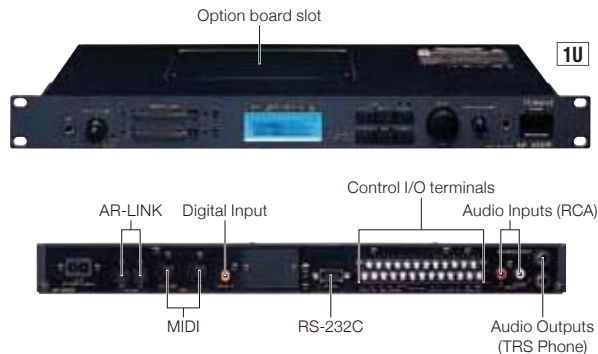
REAC Driver Version	1.3 (Commercial product, S-RDK)	2.0 (Free download from www.rolandsystemsgroup.net)
OS	Windows® XP SP3 (32 bit) Windows Vista® SP2 (32 bit or 64 bit) Windows® 7 SP1 (32 bit or 64 bit)	Windows® 8 (32 bit or 64 bit) Windows® 7 SP1 (32 bit or 64 bit)
SONAR	SONAR X1 Producer SONAR X1 Producer Expanded	SONAR X2 Producer SONAR X2 Studio SONAR X2 Essential
Monitoring Device	Roland OCTA-CAPTURE Cakewalk FA-66 Cakewalk VS-700R	Roland QUAD-CAPTURE Roland OCTA-CAPTURE Cakewalk FA-66 Cakewalk VS-700R
REAC System	M-480, M-400, M-380, M-300, S-4000, S-1608	M-480, M-400, M-380, M-300, M-200i, S-4000, S-1608

SYSTEM REQUIREMENTS **S-RDK**

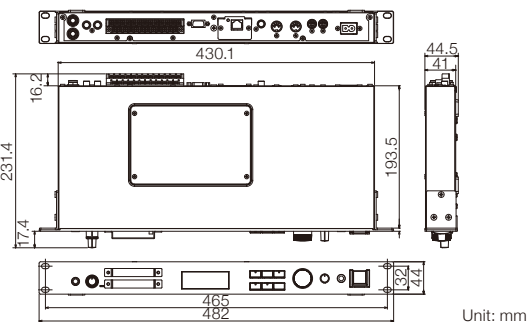
PC		OTHERS	
Operating System	Ver.1.3: Windows® XP SP3 (32 bit), Windows Vista® SP2 (32 bit or 64 bit), Windows® 7 SP1 (32 bit or 64 bit) Ver.2.0: Windows® 8 (32 bit or 64 bit), Windows® 7 SP1 (32 bit or 64 bit)	Monitoring Device	Ver.1.3: Roland OCTA-CAPTURE, Cakewalk FA-66, Cakewalk VS-700R Ver.2.0: Roland QUAD-CAPTURE, Roland OCTA-CAPTURE, Cakewalk FA-66, Cakewalk VS-700R
Processor Speed	Ver.1.3: Intel Core2Quad 2.4 GHz or higher Ver.2.0: Intel Core i5 2.6 GHz or higher	Other Hardware	Roland Digital Snake or V-Mixing System Roland CAT5e cables (supplied with Digital Snakes) Gigabit Ethernet switch (optional)
RAM	4 GB or more	SONAR Version	Ver.1.3: SONAR X1 Producer, SONAR X1 Producer Expanded Ver.2.0: SONAR X2 Producer/Studio/Essential
Ethernet Port Speed	Gigabit Ethernet/CAT5e only	Other Software	Adobe Reader
Graphics	1280 x 800, 16 bit color or higher Recommended: 1920 x 1080, 24 bit color or higher		
Audio Hard Disk Type	RAID 0 with (2) SATA drives		
Media Drive	DVD-ROM, DVD+/-R or DVD+/-RW		

AR-3000R | Audio Recorder

The highest sound quality and most flexible control options on the market



- Industry standard for reliable audio playback with no moving parts
- High quality/long time audio playback and recording using RDAC technology
- Supports WAV file playback/recording
- Flexible system integration by using the various built-in external controls
- Link multiple units (up to 32 units) with sample accuracy
- Recording and Playback of MIDI data
- Compact flash card is used as storage media



Option

ARC-15 AR-LINK Cable (1.5m)

AR-NT1R Network Option for AR-3000R

ARE-3000 AR Card Editor *

* Free download available from www.rolandsystemsgroup.net

SPECIFICATIONS AR-3000R

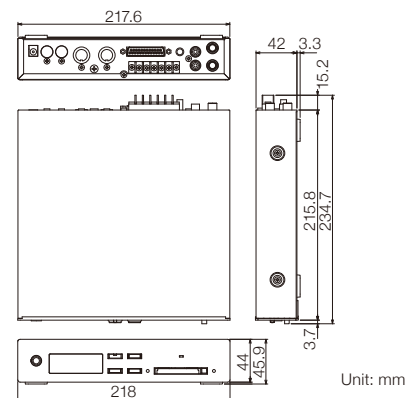
Recording Format	RDAC (Roland Digital Audio Coding), WAV
Recording Media	Compact Flash Memory Card up to 2GB x 2
RDAC Mode	WAV, H-LINEAR, LINEAR, MODE3, MODE2, MODE1
Phrase Type	Stereo, Mono (Audio) or SMF (MIDI)
Number of Phrases	Up to 2,000 phrases
Audio Input	Mic Input : -40dBu/2k ohms/balanced Line Input : 0dBu/20k (stereo) or 10k (mono) ohms/unbalanced
Audio Output	Line output : +4dBu/500 ohms/balanced Mono output : +4dBu/500 ohms/unbalanced Phone : 90+90mW Max (30 ohms or more)
S/N Ratio	90dB
Interfaces	RS-232C, MIDI, AR-LINK
Power Supply	AC 117V, 230V, 240V (50/60Hz)
Power Consumption	11W (117V), 12W (230/240V)
Dimensions	482.0 (W) x 231.4 (D) x 44.0 (H) mm 19 (W) x 9-1/8 (D) x 1-3/4 (H) inches
Weight	2.7 kg 6 lbs

AR-200R | Audio Recorder

Industry standard sound quality in a compact size



- Industry standard for reliable audio playback with no moving parts
- High quality/long time audio playback and recording using RDAC technology
- Supports WAV file playback
- DC 9 to 24V is also available as power
- Complete compatibility for playback with AR-3000R card setup
- Link multiple units (up to 32 units) using the AR-3000R
- Compact flash card is used as storage media



SPECIFICATIONS AR-200R

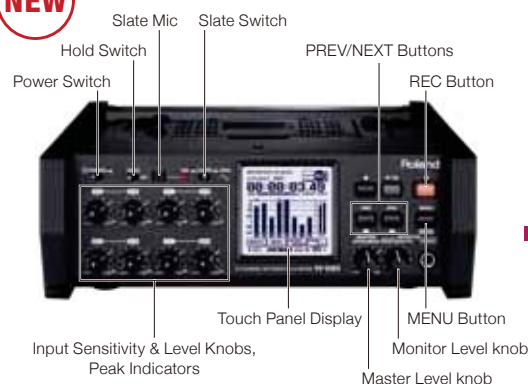
Recording Format	RDAC (Roland Digital Audio Coding)
Recording Media	Compact Flash Memory Card up to 2GB
RDAC Mode	WAV *, H-LINEAR *, LINEAR, MODE3, MODE2, MODE1 *Playback only
Phrase Type	Stereo, Mono (Audio) or SMF (MIDI)
Number of Phrases	Up to 1,000 phrases * *When saved on AR-3000R
Audio Input	0dBu/10k ohms/unbalanced
Audio Output	Line output : +4dBu/-10dBV/600 ohms/balanced Phone : 1+1 mW Max (30 ohms or more)
S/N Ratio	84 dB
Power Supply	AC Adaptor or DC9 -24V
Current Draw	1000mA (AC Adaptor) or 1200mA (External DC Power)
Options	Rack Mount bracket (RAD-50) AC Adaptor (ACI/PSB series)
Dimensions	218.0 (W) x 234.7 (D) x 44.0 (H) mm 8-5/8 (W) x 9-1/4 (D) x 1-3/4 (H) inches
Weight	1.4 kg 3 lbs. 2 oz

R-88

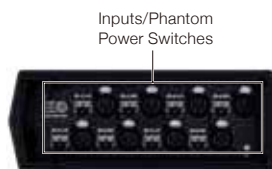
8-Channel Recorder and Mixer

Seamless integration of recording, mixing and an audio interface - a new dimension in professional portable recording

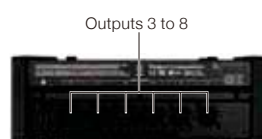
NEW



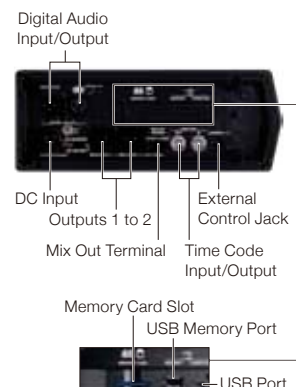
Right Side Panel



Rear Panel



Left Side Panel

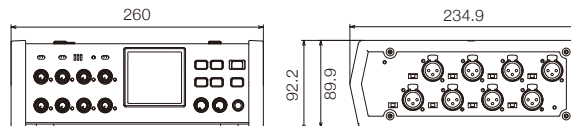


- Simultaneous recording of 8 channels + stereo mix (up to 96kHz)
- Up to 24 bit/192 kHz uncompressed linear PCM recording (up to 4 channels)
- 8 XLR inputs, 8 XLR outputs, AES/EBU input/output
- Built-in 8 channel mixer with 3-band EQ and MS microphone decoder
- Built-in 10 in/8 out USB audio interface to use with any common DAW (up to 96 kHz)

- Touch Panel Display for intuitive navigation
- SMPTE time code In/out for video sync
- BWF and iXML embedded metadata (SCENE, TAKE, TIME CODE RATE)
- Polyphonic WAV Function - ability to save 2, 4, 6 or 8 channels in a single file
- Selectable input delay per channel - adjustable by 0.05 - 20 ms - ideal for surround mic'ing
- Option Carrying Bag - CB-R88

Recording Time using 32GB SDHC memory card											Unit: hours
	16 bits/ 44.1 kHz	24 bits/ 44.1 kHz	16 bits/ 48 kHz	24 bits/ 48 kHz	16 bits/ 88.2 kHz	24 bits/ 88.2 kHz	16 bits/ 96 kHz	24 bits/ 96 kHz	16 bits/ 192 kHz	24 bits/ 192 kHz	
1ch	100	67	92	61	50	33	46	30	23	15	
2ch	50	33	46	30	25	16	23	15	11	7.7	
4ch	25	16	23	15	12	8.4	11	7.7	5.7	3.8	
8ch	12	8.4	11	7.7	6.3	4.2	5.7	3.8	—	—	
10ch	10	6.7	9.2	6.1	5	3.3	4.6	3	—	—	

* These recording times are approximate. Actual results may vary somewhat.
* If more than one recorded file exists, the total recordable time will be less.



SPECIFICATIONS R-88

Recorder Part		Phantom Power	
Channels	8 channels + 2 channels (stereo mix from built-in mixer) (Sampling Frequency 44.1, 48, 88.2 and 96 kHz), 4 channels (Sampling Frequency 192 kHz)	Audio Output Part	DA Conversion: 24 bits
Data Type	Format: BWF (mono, stereo) Sampling Frequency: 44.1, 48, 88.2, 96, 192 kHz Bit Depth: 16, 24 bits Meta Data: Origination Time, Frame Rate, etc.	Signal Processing	XLR type Output Buses: Channel 1 to 2, Channel 3 to 4, Channel 5 to 6, Channel 7 to 8, Stereo mix from built-in mixer Output Level: +4 dBu/-60 dBu Maximum Output Level: +24 dBu Output Impedance: 600 ohms
Recording Media	SDHC Memory Card: 4 to 32 GB, SD Memory Card: 2 GB	OUT 1 to 2 jacks (Analog Outputs)	XLR type Output Buses: Channel 1 to 2, Channel 3 to 4, Channel 5 to 6, Channel 7 to 8, Stereo mix from built-in mixer Output Level: +4 dBu Maximum Output Level: +24 dBu Output Impedance: 600 ohms * When sampling frequency is 192 kHz, OUT 5 to 8 jacks are inactive.
Pre-Recording	OFF, 1, 2, 3, 4, 5 second(s)	OUT 3 to 8 jacks (Analog Outputs)	XLR type Output Buses: Channel 1 to 2, Channel 3 to 4, Channel 5 to 6, Channel 7 to 8, Stereo mix from built-in mixer Output Level: +4 dBu Maximum Output Level: +24 dBu Output Impedance: 600 ohms * When sampling frequency is 192 kHz, OUT 5 to 8 jacks are inactive.
Mixer Part		MIX OUT jack (Analog Outputs)	Stereo miniature phone type Output Buses: Stereo mix from built-in mixer Maximum Output Level: 2 Vrms/-30 dBu Output Impedance: 1 k-ohm
Mixing Channels	Input: 8 channels, Output: 2 channels (stereo)	DIGITAL OUT jack	XLR type (AES/EBU, conforms to IEC 60958-4) Output Buses: Stereo mix from built-in mixer
Channel Strip	3-band equalizer, Fader, Pan, MS microphone decoder	Others	
Master	Fader, Limiter	Dimensions	260 (W) x 235 (D) x 93 (H) mm 10-1/4 (W) x 9-1/4 (D) x 3-11/16 (H) inches
Audio Input Part		Weight (including batteries)	2.7 kg 6 lbs
Signal Processing	AD Conversion: 24 bits		
AD Dynamic Range	120 dB or greater ([SENS] knob = +4 dBu)		
Channel Effects	Limiter, Low Cut, MS microphone decoder		
IN 1 to 8 jacks (Analog Inputs)	XLR type (Phantom powered) Nominal Input Level (chooses with [SENS] knob): -56, -50, -44, -38, -32, -26, -20, -14, -8, -2, +4 dBu (LEVEL KNOB MODE = INPUT: Changes with the [LEVEL] knob positions in the range of -infinity to +8 dB.) Maximum Input Level: +26 dBu Input Impedance: Mic Input ([SENS] knob = -56 to -20 dBu): 3.4 k-ohms, Line Input ([SENS] knob = -14 to +4 dBu): 5.6 k-ohms * When sampling frequency is 192 kHz, IN 5 to 8 jacks are inactive.		
DIGITAL IN jack	XLR type (AES/EBU, conforms to IEC 60958-4) * When using Digital Input, IN 1 to 2 jacks are inactive.		

(0dBu=0.775Vrms)

R-44

4-Channel Portable Recorder

A compact, solid-state, four channel portable audio recorder



■ Front Panel



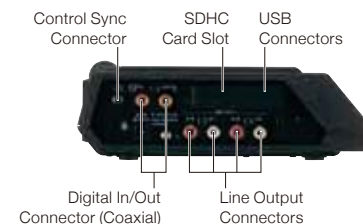
Headphone Jack

■ Right Side Panel



Input connectors (1 to 4)

■ Left Side Panel



- Up to 24-bit 192 kHz uncompressed linear PCM recording (2 channels)
- SD or SDHC card as the recording media for quiet and reliable field recording
- Built-in limiter, low-cut filter, and studio class effects
- Pre-recording function
- Synchronized operation of 2 units enables up to 8 channels of recording

- Built-in stereo microphones and monitor speakers
- High-contrast Organic LED display
- Three types of power options: AC adaptor, external battery, or standard AA batteries

* Four hours of operation is possible with NiMH.

* 44.1 kHz/16-bit/Stereo Recording, alkaline batteries, Phantom power: OFF.

Recording Time using 8 GB SDHC card (Unit: minute)

● Stereo Recording

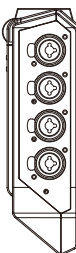
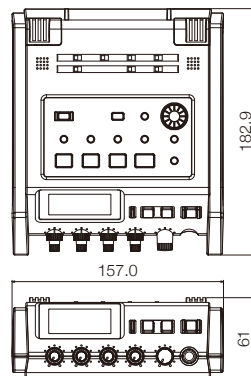
Sampling Rate	Sampling Frequency			
	44.1 kHz	48 kHz	96 kHz	192 kHz
16-bit	755	694	347	173
24-bit	503	462	231	115

● 4 channel Recording

Sampling Rate	Sampling Frequency			
	44.1 kHz	48 kHz	96 kHz	192 kHz
16-bit	377	347	173	—
24-bit	251	231	115	—

* Recording times are approximate. Actual results may vary.

* If more than one recorded file exists, the total recordable time will be less than listed.



Unit: mm

Option

CB-R44

Carrying Bag
Easy cable connection
and media exchange.



SPECIFICATIONS R-44

Channels	4
Signal Processing	Sampling Bit Rate: 16/24-bit Sampling Frequency: 44.1 kHz/48 kHz/88.2 kHz/96 kHz/ 192 kHz (Limited to Stereo x 1 at 192 kHz) * 16 or 24-bit sampling rate can be selected with any frequency
Data Type	WAV/BWF
Recording Media	SDHC memory card (compatible with 64 MB to 32 GB)
Analog Input	Ch1 to 4: XLR/TRS Combo type, XLR type (phantom powered), TRS type (balanced/unbalanced), Stereo Built-in Microphones
Analog Output	Ch1 to 4: RCA Pin type (line output) Headphone: Stereo Phone type (1/4 inch)
Digital In/Out	RCA Pin type (IEC 60958-3)
Input Impedance	XLR: 4 k-ohms or greater (balanced) TRS: 6 k-ohms or greater (balanced)
Nominal Input Level (Input Level Knob: Center)	11 steps: -56, -50, -44, -38, -32, -26, -20, -14, -8, -2, +4 dBu (Input sense knob: -Inf. to +8 dB)
Maximum Input	+24 dBu (Input Sens Knob: +4 dBu)
Recommended Load Impedance	Line: 4 k-ohms or greater, Headphone: 16-ohms or greater
Output Level	Line Output: -20 dBu (fixed), Headphone: 40 mW + 40 mW
Total Harmonic Distortion + Noise Line (THD+N)	Output: 0.02 % (Input Sens: +4 dBu)

Noise Level	Line Output: -100 dBu (Input Sens: +4 dBu, Input Level: Center)
Residual Noise Level	Line Output: -103 dBu (Input Sens: +4 dBu, Input Level: Minimum)
Frequency Response	20 Hz to 40 kHz (0/-3 dB) Dynamic Range AD: 100 dB, DA: 104 dB
Phantom Power	48 V + or -4 V, 8 mA per 1 channel (20 mA or less in all channels)
USB Port	Mini-B Type Connector * USB 1.1 or 2.0 High Speed (Mass Storage Class)
Control Sync	Jack Stereo Mini Type Jack, Word clock sync and start/stop remote control of 2 units * Remote control function does not guarantee the exact same REC start time
Display	128 x 64 dot organic LED
Power Supply	AC adaptor (PSB-1U), AA type battery x 4 (Alkaline or NiMH)
Current Draw	1.2 A
Dimensions	157 (W) x 183 (D) x 61 (H) mm, 6-3/16 (W) x 7-1/4 (D) x 2-7/16 (H) inches
Weight	1.3 kg, 2 lbs 14 oz (including batteries)
System Requirements	Microsoft® Windows® Vista®/XP/2000, Mac OS X 10.2 or later



Fugue ©1999-2013 Kyoto Software Research, Inc All right reserved

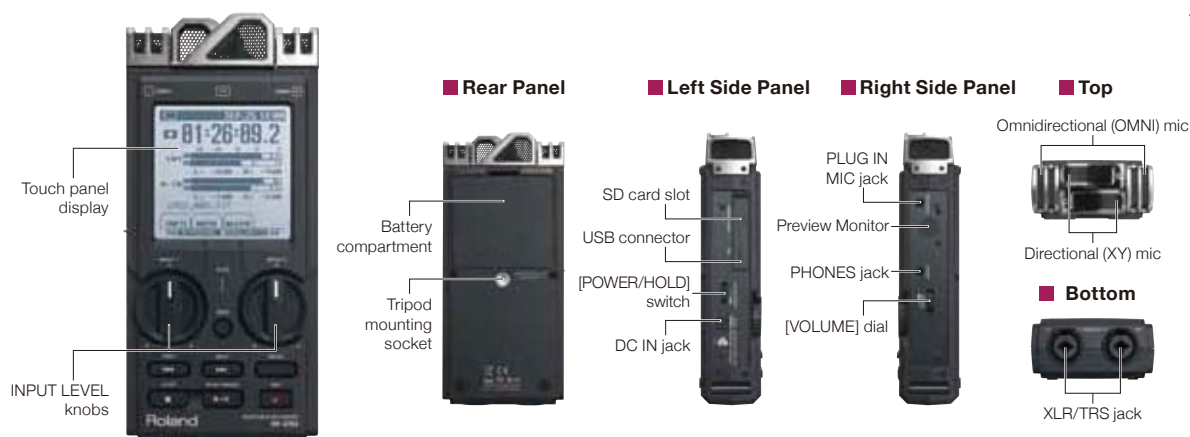
R-26

Portable Recorder

Up to six channels of simultaneous recording using two built-in stereo mics (XY and Omni) as well as two XLR/TRS inputs



SONAR LE

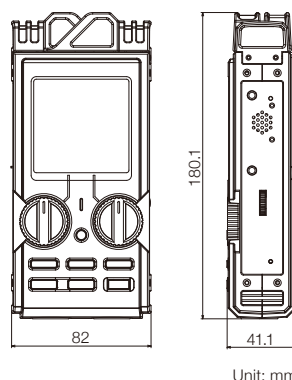


- Two types of built-in stereo microphones (omnidirectional and directional) that can be used in various combinations
- Two XLR/TRS combo inputs with 48 V phantom power plus an input for a stereo plug-in powered mic
- Supports up to six channels (three stereo channels) of simultaneous recording
- Large LCD touchscreen display for intuitive navigation

- Large input-level knobs for fine adjustment
- Built-in Hi-Speed USB interface for use as an audio interface or external storage
- Loop-Back function; combine this with the built-in or external mics for the optimum streaming setup (only with Audio Interface function)
- Bundled with SONAR LE software (PC)

Recording Time (Unit: hour)				
Data Format		Memory Size		
		2 GB	8 GB	32 GB
WAVE/BWF	16-bit, 44.1 kHz STEREO	3.0	12.2	48.9
	24-bit, 96.0 kHz STEREO	0.9	3.7	15.0
	16-bit, 44.1 kHz 4 CH	1.5	6.1	24.5
	24-bit, 96.0 kHz 4 CH	0.5	1.9	7.5
	16-bit, 44.1 kHz 6 CH	1.0	4.1	16.3
	24-bit, 96.0 kHz 6 CH	0.3	1.2	5.0
MP3	128 kbps	33	134	539
	320 kbps	13	53	215
WAVE/BWF + MP3	16-bit + 128 kbps 44.1 kHz	2.8	11.2	44.9
	16-bit + 128 kbps 48.0 kHz	2.5	10.4	41.5

* Each recording time is approximate. The times may change depending on the card specifications.
 * In the case of plural files, the recording time will be shorter than the above.



Option



OP-R26CW
 Cover/Windscreen Set for R-26
 This custom-designed accessory set includes an easy-to-use cover, a strap, and a windscreen for outdoor recording with the R-26.




















SPECIFICATIONS R-26

RECORDER PART	
Tracks	6 (3 stereo)
Signal Processing	AD/DA conversion: 24 bits, 96.0/88.2/48.0/44.1 kHz
Data Type	<p><For Recording> WAVE/BWF: Sampling Rate 96.0/88.2/48.0/44.1 kHz, Bit Depth 24/16 bits, MP3 (MPEG-1 Audio Layer 3): Sampling Rate 48.0/44.1 kHz, Bit Rates 320/160/128 kbps, WAVE + MP3: Sampling Rate 48.0/44.1 kHz, Bit Depth 16 bits, Bit Rates 128 kbps</p> <p><For Playback> WAVE/BWF: Sampling Rate 96.0/88.2/48.0/44.1 kHz, Bit Depth 24/16 bits, MP3 (MPEG-1 Audio Layer 3): Sampling Rate 48.0/44.1 kHz, Bit Rates 32 - 320 kbps or VBR (Variable Bit Rate)</p>
Memory Card	SD Card (SDHC format compatible)
INPUT/OUTPUT	
Audio Inputs	Internal Stereo Microphone: Omnidirectional (OMNI) mic, Directional (XY) mic, Analog Input 1/L, 2/R (XLR/TRS Combo type): XLR type (phantom powered), 1/4-inch TRS phone type (balanced/unbalanced), Plug-in powered mic Input: Stereo miniature phone type
Audio Output	Phones (Stereo miniature phone type)
Nominal Input Level (Variable)	Analog Input 1/L, 2/R: +4/-2/-8/-14/-20/-26/-32/-38/-44/-50/-56/-62 dBu
* Input Level Knob: Center	Plug-in powered mic Input: LOW -7.5 dBu, MID -21 dBu, HIGH 26 dBu

Input Impedance	Analog Input 1/L, 2/R: 5 k ohms, Plug-in powered mic Input: MID/HIGH 3 k ohms, LOW 2 k ohms
Maximum Input	Analog Input 1/L, 2/R: +24 dBu (SENS = +4 dBu) Plug-in powered mic Input: +4 dBu (SENS = LOW)
Output Level	35 mW + 35 mW (In case 16 ohms load)
Recommended Load Impedance	16 ohms or greater
Frequency Response	20 Hz - 40 kHz
Phantom Power	48 V ± 4 V, 10 mA or less in all channels
USB Interface	Mini-B type connector, USB mass storage device class, USB audio (Hi-Speed USB)
OTHERS	
Power Supply	AC adaptor, Alkaline dry battery LR6 (AA) type x 4, Rechargeable Ni-MH battery (AA, HR6) X 4
Current Draw	500 mA
Dimensions	82.0 (W) x 180.1 (D) x 41.1 (H) mm 3-1/4 (W) x 7-1/8 (D) x 1-5/8 (H) inches
Weight	0.37 kg, 14 oz (excluding batteries)

(0dBu=0.775Vrms)

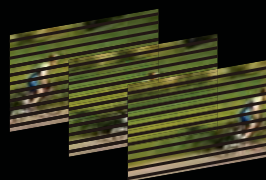
VIDEO MIXERS/SWITCHERS

		Multi-Format Video Switcher			Video Mixer	
						
		V-1600HD	V-800HD	V-40HD	V-4EX	V-8
		 	  	   	    	
Video Format	Video	Up to 1080p	Up to 1080p	Up to 1080p	Up to 1080p * Internal processing is 480p/576p	480i (NTSC)/576i (PAL)
	RGB	Up to 1920 x 1200 (WUXGA)	Up to 1920 x 1200 (WUXGA)	Up to 1920 x 1200 (WUXGA)	Up to 1920 x 1200 (WUXGA)	Up to 1600 x 1200 (UXGA)
Video Processing		4:2:2 (Y/Pb/Pr), 10 bits	4:4:4 (Y/Pb/Pr, RGB), 10 bits	4:4:4 (Y/Pb/Pr), 10 bits * Output processing 4:2:2/8 bits	4:2:2 (Y/Pb/Pr), 8 bits	4:2:2 (Y:B-Y:R-Y), 8 bits
Number of Connectors	3G-SDI (Level A and B)	-	-	-	-	-
	HD/SD-SDI	8 in/2 out	4 in/2 out	-	-	-
	DVI-A	-	4 in	-	-	-
	HDMI/DVI-D	2 in/2 out	4 in/3 out	4 in/3 out	4 in/2 out	-
	RGB/Component	4 in/2 out	4 in/1 out	4 in/2 out	1 in/1 out	RGB: 2 in
	S-Video	1 in/1 out	-	-	1 in	4 in/1 out
	Composite	1 in/1 out	4 in/1 out	4 in/1 out	4 in/1 out	7 in/3 out
Still Image		Yes	Yes	-	-	-
Layer Composition		3 (Back ground, PinP/Key, DSK)	3 (Back ground, PinP/Key, DSK)	3 (Back ground, PinP/Key, DSK)	2 (Back ground, PinP/Key)	2 (Back ground, PinP/Key)
Monitor	Built-in Monitor	8.5 inch, 800 x 480 dot x 1	-	-	3.5 inch, 320 x 240 dot with touch control x 1	-
	External Multi Viewer Output	-	HDMI	HDMI	HDMI	-
Audio	Analog	-	-	2 in (1 stereo)	2 in (1 stereo)	-
	Digital	-	-	HDMI: 4 in/3 out	HDMI: 4 in/2 out	-
USB Streaming (Video and Audio)		-	-	-	USB 2.0	-



Stellar Image Quality at 1080p (3G-SDI)

Supports 1080p video signals at bit rates as high as 3 Gbps - twice the rate of conventional HD. Asserts all the vividness of high-realism, high-detail camera and computer sources.



Interlaced (1080/60i)
















Progressive (1080/60p)



True Multi-Format Performance

There's no need to convert the input source to match the video output format. The built-in scalers up-convert and down-convert any video source to the optimal resolution.

/Switcher		Multi-Viewer/Switcher	AV Mixer		
					
V-4	LVS-800	MVS-12	VR-50HD	VR-5	VR-3
			    		
480i (NTSC)/576i (PAL)	480i (NTSC)/576i (PAL)	480i (NTSC)/576i (PAL)	Up to 1080p	480i (NTSC)/576i (PAL)	480i (NTSC)/576i (PAL)
-	Up to 1600 x 1200 (UXGA)	Up to 1920 x 1080	Up to 1920 x 1080	Up to 1600 x 1200 (UXGA)	Up to 1366 x 768
4:2:2 (Y:B-Y:R-Y), 8 bits	4:2:2 (Y:B-Y:R-Y), 8 bits	4:2:2 (Y:B-Y:R-Y), 8 bits	4:4:4 (RGB), 10 bits 4:2:2 (Y/Pb/Pr), 10 bits	4:2:2 (Y:B-Y:R-Y), 8 bits	4:2:2 (Y:R-Y:B-Y), 8 bits
-	-	-	4 in/2 out	-	-
-	-	-	-	-	-
-	-	1 out	4 in/3 out	-	-
-	RGB: 2 in	RGB: 1 out	2 in/2 out	RGB: 1 in	RGB: 1 in
2 in/1 out	4 in/2 out	-	-	3 in/2 out	-
4 in/3 out	6 in/6 out	12 in/5 out	2 in	3 in/3 out	4 in/3 out
-	-	-	Yes	Yes	-
2 (Back ground, PinP/Key)	3 (Back ground, PinP/Key, DSK)	-	4 (Back ground, PinP, PinP/Key, Still Key)	3 (Back ground, PinP/Key, Key)	2 (Back ground, PinP/Key)
-	-	-	7 inch, 800 x 480 dot with touch control x 1	3.5 inch, 320 x 240 dot with touch control x 2	3.5 inch, 320 x 240 dot with touch control x 1
-	-	HDMI, RGB	HDMI	HDMI, Composite	Composite
-	-	-	12 in (4 mono, 4 Stereo)/ 2 stereo out	10 in (2 mono, 4 stereo)/ 2 stereo out	8 in (4 mono, 2 stereo)/ 2 stereo out
-	-	-	HDMI: 4 in/3 out SDI: 4 in/2 out	HDMI: 1 out	-
-	-	-	USB 3.0	USB 2.0	USB 2.0



Support for HDCP HDMI signals

True HDCP mode. Switching and composition are possible even for fully HDCP-encoded output signals.



Support for workflow combining audio and video

Audio embedding feature makes it possible to insert and synchronize analog audio input with HDMI-output video.



USB 3.0/2.0 Video/Audio Output

The USB 2.0/3.0 output enables web streaming with ease by simply connecting to a computer running a live streaming service. Recording is equally simple by using Quicktime or Video Capture for VR, the dedicated Windows/Mac capture software. The video format is up to 1080/59.94p through USB 3.0.

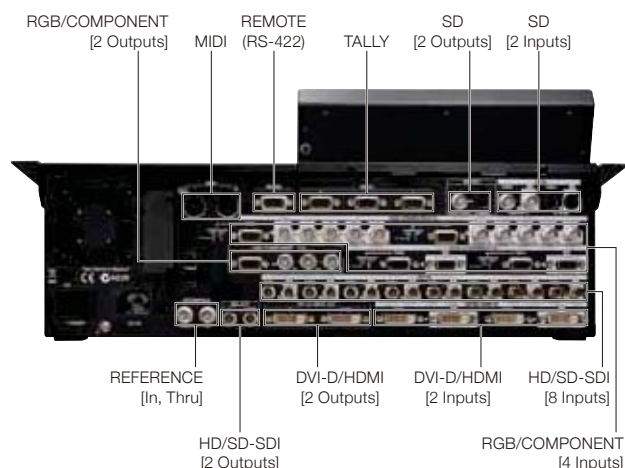
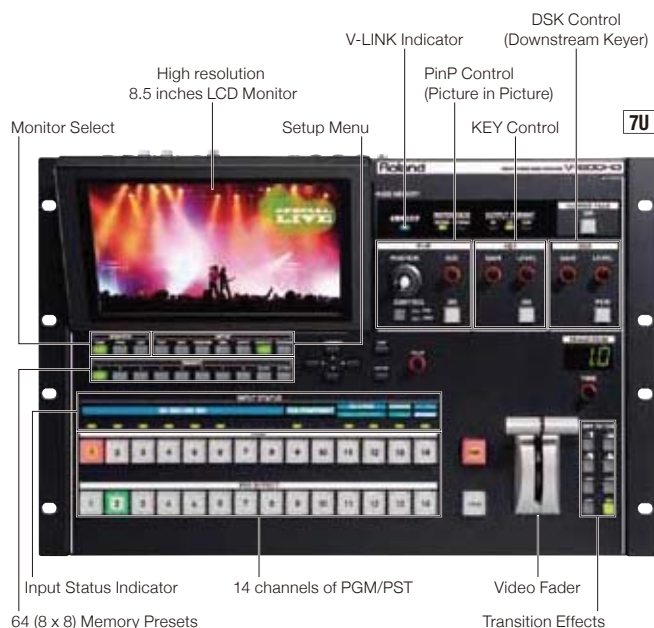
V-1600HD | Multi-Format Video Switcher

An all-in-one multi-format live video switcher

1080/60p

MULTI-FORMAT

V-LINK

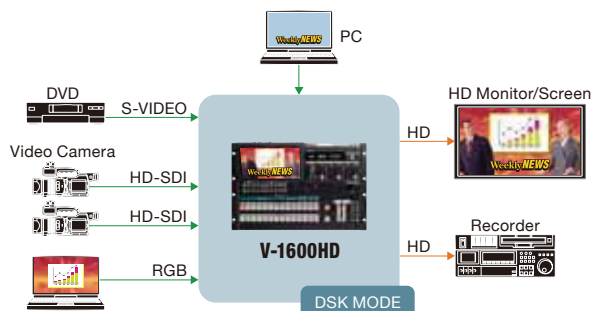


- All-in-one 14 channel (16 input) seamless switcher/mixer
- Ready to connect anything: SDI, DVI/HDMI, RGB, Component, S-Video, Composite
- Built-in high-res preview monitor, frame synchronizer and scalers
- Independent multi-format outputs including edge-blending

- Downstream Keyer, Composite Keyer and Picture-in-Picture
- SPAN, DUAL and SPLIT modes offer a variety of output configurations
- Use one camera to create multiple perspectives for virtual multi-camera production

DSK Mode

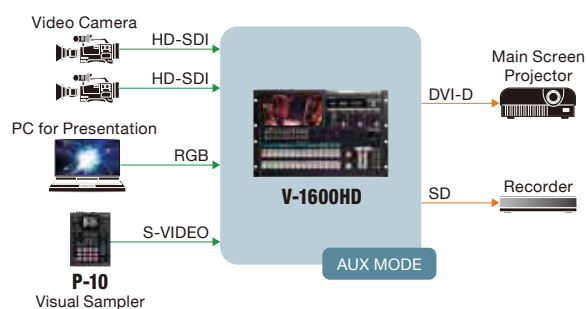
Text/Graphics from a PC/Mac can be composited on background video content.



* In DSK mode, outputs are same format.

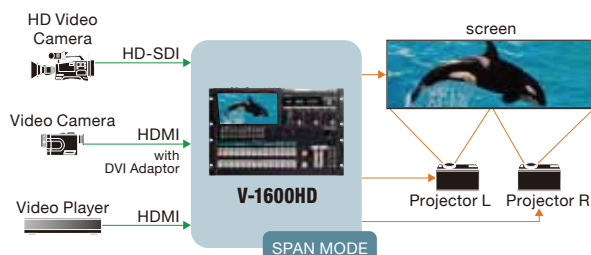
AUX Mode

Two different video formats can be output simultaneously.



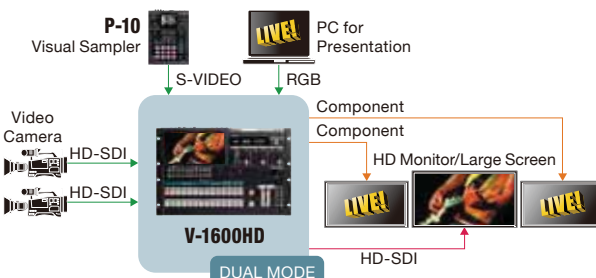
SPAN Mode *1

Displays a single image across two screens. Built-in Edge Blending enables seamless image across a wide screen.



DUAL Mode *1

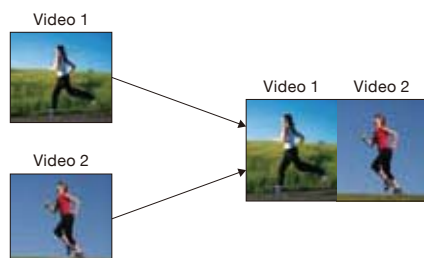
Using the DUAL Mode, two video inputs can be switched individually. Switching both inputs at same time is also possible. Preview monitoring of each output enables confident operation.



*1: In SPAN/DUAL/SPLIT Mode, PinP, Key, DSK, External Control are not available. Transition effects cannot be applied. When [CUT] is selected, a black screen is inserted momentarily at the time of transition. When [MIX] is selected, a black screen is inserted and a fade-in or fade-out occurs.

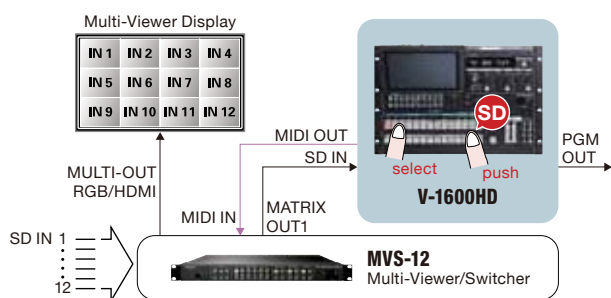
SPLIT Mode *1

Using SPLIT Mode, two video inputs can be displayed on one display. This is useful for comparing two videos on a single screen.



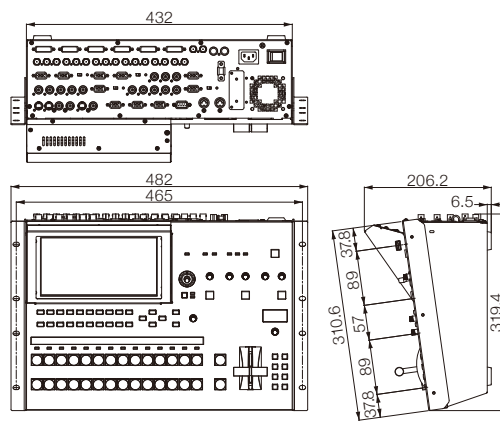
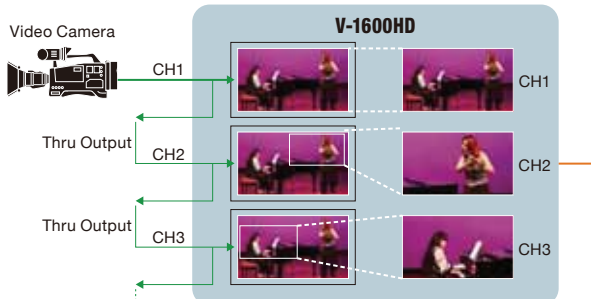
Expansion of SD Inputs

The Matrix Switcher function enables the V-1600HD mixer to access additional SD inputs. By connecting a MIDI cable and using the V-LINK function, the V-1600HD can directly select any video source from the MVS-12.



Multi-Zoom

Using the thru out connectors, one video input can be daisy-chained to multiple inputs. The scaler for each input can zoom into any position in the video image enabling a virtual multi-camera environment. This gives the appearance that you have additional cameras.



Unit: mm

SPECIFICATIONS V-1600HD

Video Processing	
Processing	4:2:2 (Y:Pb:Pr), 10 bit
Supported Formats	SD : 480/59.94i, 576/50i, 480/59.94p, 576/50p
	HD : 1080/59.94p, 1080/50p, 1080/59.94i, 1080/50i, 720/59.94p, 720/50p
	RGB : 640 x 480/60Hz, 800 x 600/60Hz, 1024 x 768/60Hz, 1280 x 768/60Hz, 1280 x 1024/60Hz, 1600 x 1200/60Hz, 1920 x 1200/60Hz
	* Confirms to VESA DMT Ver. 1.0 Revision 10
	* When PAL is selected, RGB refresh rate from 640 x 480 to 1280 x 1024 is 75Hz
Input/Output Level and Impedance	* Reduced blanking to be applied to 1920 x 1200
	STILL : BMP
Input Connectors * Loop thru connectors are equipped for all inputs	
Analog SD	S-Video (4 pin mini DIN type) x 1, Composite (BNC type) x 1 * Select one from menu
Analog HD (Component)	Y/Pb/Pr (BNC type) x 2, D-Sub 15 pin type x 2 * Combined use with analog RGB
Analog RGB	R/G/B/H/V (BNC type) x 2, D-Sub 15 pin type x 2 * Combined use with analog HD (Component)
DVI-D	Single Link Type x 2
HD/SD-SDI	BNC type x 8 * Confirms to SMPTE 259M-C, SMPTE 292M
Output Connectors	
Analog SD	S-Video (4 pin mini DIN type) x 1, Composite (BNC type) x 1
Analog HD (Component)	Y/Pb/Pr (BNC type) x 1, D-Sub 15 pin type x 1 * D-Sub 15 pin type : combined use with analog RGB

Analog RGB	D-Sub 15 pin type x 1 * Combined use with analog HD (Component)
DVI-D	Single Link Type x 2
HD/SD-SDI	BNC type x 2 Conforms to SMPTE 259M-C, SMPTE 292M
Other Connectors	
TALLY	D-Sub 15 pin type x 3 (200 mA, Open Collector type)
Remote	MIDI (IN, OUT/THRU), RS-422 (D-Sub 9 pin type) x 1
REFERENCE	BNC type (IN, THRU) * Black Burst (Sync to frames), Bi-Level, Tri-Level Sync
USB port (host)	A type x 1 for USB memory
Effects	
Transition	Mix, FAM, NAM, Wipe (9 patterns)
Composition	PinP, Chroma Key, Luminance Key, Split, DSK
Others	Output Fade, Edge Blending, Multi Screen (Video Wall)
Others	
Power Supply	AC117 V, 220 V, 230 V, 240 V (50/60Hz)
Power Consumption	90 W
Dimensions	482 (W) x 319 (D) x 206 (H) mm 19 (W) x 12-5/8 (D) x 8-1/8 (H) inches
Weight	8.1 kg 17 lbs. 14 oz

* This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

* This product is intended for use in the following Electromagnetic environments:
E1:residential, E2:commercial and light industrial, E3:urban outdoors, E4:controlled EMC environment, ex. recording studio (broadcasting studio) which are specified in EN55103-1 and EN55103-2.

V-800HD

Multi-Format Video Switcher

Eight Multi-Format Channels with Independent Scalers A Variety of Output Formats including a Built-in Multiviewer



SCALING

● Scaling Sample



USB MEMORY



64 (8 x 8) Memory Presets

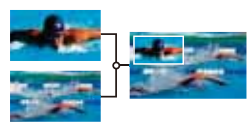


10 channels of PGM/PST

VIDEO FADER TRANSITION

PinP/KEY/DSK (Down Stream Keyer)

● PinP (Picture in Picture)



● DSK (Downstream Keyer)



DVI-I/HDMI Input Up to WUXGA, 1080p



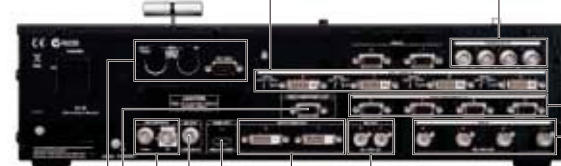
COMPOSITE Input 480i or 576i



SDI Input Up to 1080p



RGB/COMPONENT Input Up to WUXGA, 1080p



RGB/COMPONENT Output Up to WUXGA, 1080p



SD Output 480i or 576i



SDI Output Up to 1080p

MIDI/RS-232C Connectors

REFERENCE Connectors



Multiviewer Output 1080/60p with HDCP



DVI-D/HDMI Output Up to WUXGA, 1080p

* Use an HDMI monitor that supports HDCP and 60p signals.

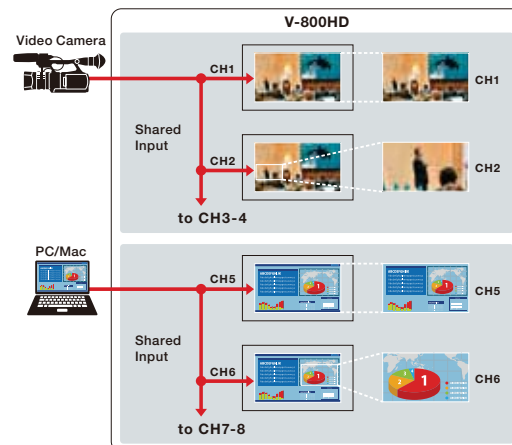
* SDI and composite inputs are displayed at the original source frame rate.

* DVI-I/HDMI and RGB/Component inputs are displayed using a reduced frame rate.

- 8 Input (4 SDI/Composite + 4 DVI-I/HDMI/RGB/Component), 6 Output (2 SDI + 2 DVI-D/HDMI + RGB/Component + Composite)
- 4:4:4/10-bit Internal Processing
- 1 M/E (Key, PinP) + DSK
- Built-in frame synchronizers and scalers on all inputs
- SDI support: 3G (Level A and B), HD, and SD
- DVI-D/RGB/HDMI support
- Input status LEDs
- HDCP support
- Live access to two still-image sources
- 10 assignable cross-points
- Multiviewer monitor output (Switch between Y/Cr/Cb and RGB modes)

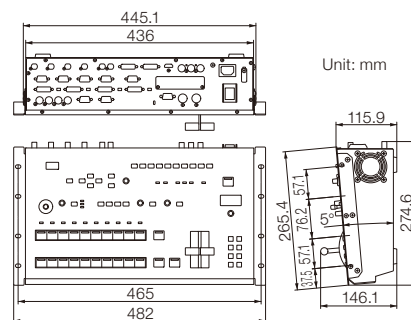
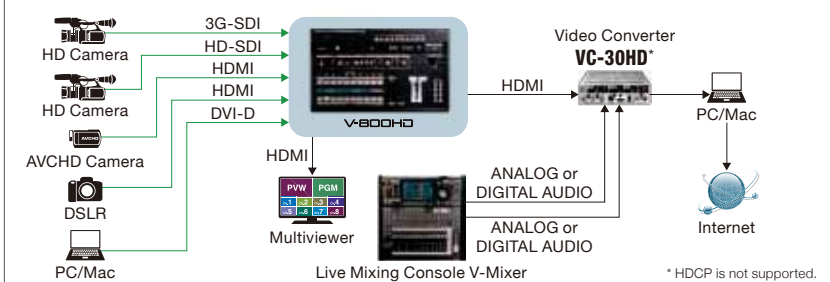
Multi-Zoom

Using the shared input function, you can assign the video on channel 1 to channels 2 through 4 and the video on channel 5 to channels 6 through 8. The scaler for each input can zoom into any position in the video image enabling a virtual multi-camera environment. This gives the appearance that you have additional cameras connected.



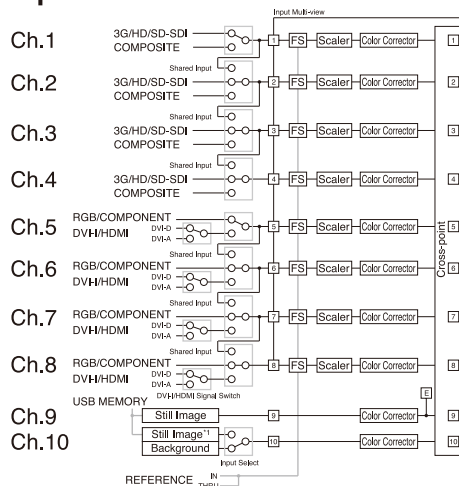
* Only the source of the previous adjacent channel can be shared.

V-800HD with Live Mixing Console and Video Converter

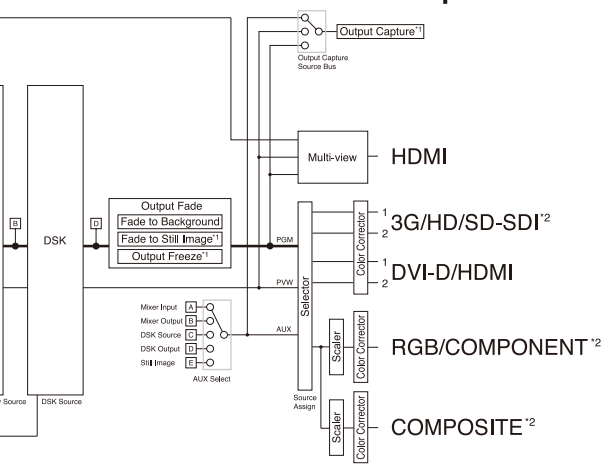


Block Diagram

Input



Output



*1 These functions can not be used at the same time.
*2 In HDCP mode, no video signals are output from the analog or SDI connectors.

SPECIFICATIONS V-800HD

Video Processing

Processing	4:4:4 (Y/Pb/Pr, RGB), 10-bit
Video	480/59.94i, 576/50i, 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p
PC	640 x 480/60 Hz*1, 800 x 600/60 Hz*1 *3, 1024 x 768/60 Hz*1, 1280 x 768/60 Hz*1, 1280 x 1024/60 Hz*1, 1366 x 768/60 Hz*1, 1400 x 1050/60 Hz*1, 1600 x 1200/60 Hz, 1920 x 1080/60 Hz, 1920 x 1200/60 Hz*2
Supported Formats	* Conforms to VESA DMT Version 1.0 Revision 10 *1 Output refresh rate is 75 Hz when frame rate is set to 50 Hz *2 Reduced blanking *3 When Reference is set to External, the resolution of 800 x 600 and refresh rate of 60 Hz are no longer compliant with the VESA standard. This means that display on some devices may not be possible in this situation. Still Image: Windows® Bitmap File (.bmp) * Maximum 1900 x 1200 pixels, 24-bit per pixel, uncompressed

Input/Output Level and Impedance

Composite	1.0 Vp-p, 75 ohms
Analog HD/RGB	0.7 Vp-p, 75 ohms (H, V: 5 VTTL)

Input Connectors

3G/HD/SD-SDI	BNC type x 4 * Conforms to SMPTE 424M (Level-A), 292M, 259M-C
DVI-I/HDMI	DVI-I type x 4 * Select DVI-A or DVI-D/HDMI using switch per channel
Analog Video	HD: Component (Mini D-Sub 15 pin type) x 4 * Combined use with Analog RGB SD: Composite (BNC type) x 4 * Select Composite or SDI using menu per channel
Analog RGB	Mini D-Sub 15 pin type x 4 * Combined use with Analog Video (HD) * Select DVI-D/HDMI or Analog RGB using menu per channel

Output Connectors

3G/HD/SD-SDI	BNC type x 2 * Conforms to SMPTE 424M (Level-A), 292M, 259M-C
DVI-D/HDMI	DVI-D type x 2, HDMI x 1 (for multi-view monitor)
Analog Video	HD: Component (Mini D-Sub 15 pin type) x 1 * Combined use with Analog RGB SD: Composite (BNC type) x 1

Analog RGB	Mini D-Sub 15-pin type x 1 * Combined use with Analog Video (HD)
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Other Connectors

Tally	Mini D-Sub 15 pin type x 2 * Input (max): 12V, 200 mA Open collector Type
Reference	BNC type (IN, THRU) * Black Burst (Sync to frames), Bi-Level, Tri-Level
MIDI	5 pin DIN type (IN, OUT/THRU)
RS-232C	D-Sub 9 pin type x 1
USB port (host)	A type x 1 (for USB memory)

Effects

Transition	Mix, Cut, Wipe (9 patterns)
Composition	PinP, DSK, Chrominance Key, Luminance Key, External Key
Others	Output Fade, Output Freeze

Others

Power Consumption	75 W
Power Supply	AC 115 V, AC 117 V, AC 220 V, AC 230 V, AC 240 V (50/60 Hz)

Dimensions	482 (W) x 274.6 (D) x 115.9 (H) mm 19 (W) x 10-13/16 (D) x 4-9/16 (H) inches * When rack mount brackets are attached. * EIA-6U rack mount size.
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Weight	5.5 kg 12 lbs 3 oz
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Accessories	Power Cord, Rack Mount Angle (2), Input Template, Owner's Manual
-------------	--

* This product is a Class A digital device under FCC part 15.

V-40HD

Multi-Format Video Switcher

Four Multi-Format Channels at the Pinnacle of HD Picture Quality

NEW

INPUT

SCALING

Zoom and Adjustment.

The V-40HD features scalers that let you make settings independently for every input source. With these, you can take input sources of different resolutions and adjust to any sizing.



INPUT Selectors

Select from among HDMI, RGB/Component, and Composite as the connector for each input.

With just one touch, you can access the video source from any of the three pieces of equipment connected to the respective inputs.

PinP

Two images can be combined into one video image.

You can select any of four positions for an inset screen: top left, bottom left, top right, or bottom right. You can also freely adjust the size of the inset screen.



MEMORY
25 (5 x 5) Memory Presets



WIPE PATTERN

Easy selection of video transition effects.



VIDEO FADER

Switch the sources at the speed you want.

Using the video fader (T-bar) lets you carry out scene transitions, fade-ins, and fade-outs manually at exactly the speed you want.

DSK (Downstream Keyer)

Composite logos and text into output video.

You can overlay logos and text onto composited and switched video. You can also transition between scenes underneath text or logos.



OUTPUT

OUTPUT Selectors

Three types of output formats to choose from.

Select SD, HD, or RGB simply by pressing a button.

Default Settings (can be changed)

SD	480i
HD	1080i
RGB	XGA (1024 x 768)

* You can select other format on the menu.

* The format of PVW OUT cannot be changed. (1920 x 1080/60Hz fixed)

PVW (Preview) Selectors

Chooses the view displayed on a preview monitor.

Select a four-way split screen, PST, PGM or DSK to display.

* The resolution and refresh rate of monitor output is fixed at 1920 x 1080/60 Hz (progressive).

* Use an HDMI monitor that supports HDCP and 60p signals.

* When INPUT is selected (four-way split), the sources are displayed using a reduced frame rate.



INPUT Connectors 1 - 4

Support for three formats per input.

[HDMI] Up to WUXGA, 1080p

[RGB/Component] Up to WUXGA, 1080p

[Composite] 480i or 576i

HDMI inputs support an embedded audio signal.



CONTROL INTERFACE

[RS-232C]

Use RS-232C for integrated remote control.

It's possible to connect a computer, wall panel or other remote device and use it to control switching, effects, and other operations.

[MIDI]

Controllable via any MIDI device.

A Roland digital audio mixer like the M-200i V-Mixer can link to the V-40HD for audio-follows-video application. Connect another V-40HD for more inputs.

AUDIO INPUT

Mix analog audio into HDMI video.

The V-40HD is equipped with inputs for analog audio equipment. This enables you to embed analog audio in the HDMI video output.

Output Connectors

Connect monitors, projectors, or recording equipment.

[HDMI] Up to WUXGA, 1080p

[RGB/Component] Up to WUXGA, 1080p

[Composite] 480i or 576i

* In HDCP mode, no video signals are output from the RGB/Component and composite connectors.

USB PORT

For saving the internal memory.

This lets you connect a USB flash drive and save the internal memory to it.

1080/60p

MULTI-FORMAT

AUDIO EMBEDDING

HDCP

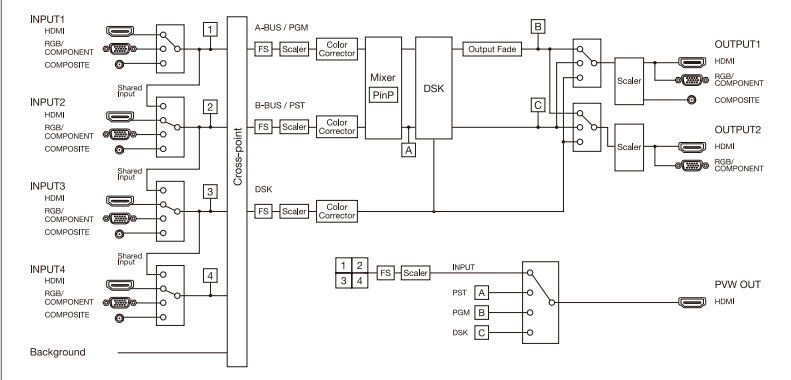
V-LINK

MIDI VISUAL CONTROL

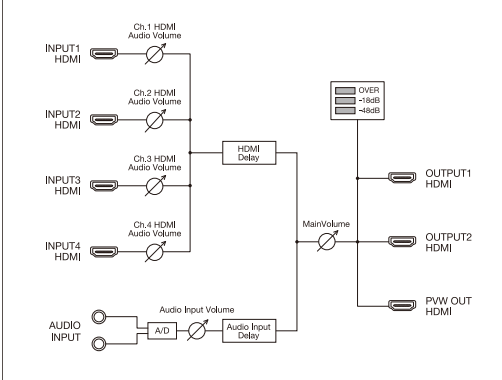
- 4 Inputs (HDMI/RGB/Component)
- 3 Outputs (HDMI/RGB/Component/Composite + HDMI/RGB/Component + HDMI)
- 4:4:4/10-bit Internal Processing (* 4:2:2/8-bit Output Processing)
- 1 M/E (PinP) + DSK
- Built-in frame synchronizers and scalers on all inputs
- Input status LEDs

- Full HDCP support
- Preview monitor output (Four-way split screen for Inputs, PST, PGM, or DSK)
- Audio embedding
- Up to 12 frames audio delay to align the timing with video for perfect lip sync
- Audio follow function

Block Diagram (Video)

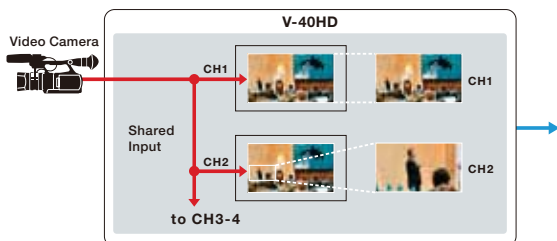


Block Diagram (Audio)

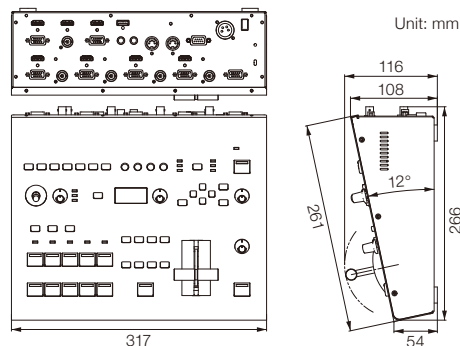


Multi-Zoom

Using the shared input function, you can assign the video on channel 1 to channels 2 through 4. The scaler for each input can zoom into any position in the video image enabling a virtual multi-camera environment. This gives the appearance that you have additional cameras connected.



* Only the source of the previous adjacent channel can be shared.



SPECIFICATIONS V40-HD

Video Processing	
Sampling Rate	4:4:4 (Y/Pb/Pr), 10 bits * Output signal processing is 4:2:2/8-bit.
Audio Processing	
Sampling Rate	24 bits/48 kHz, 2ch
Input Formats	
HDMI Video	480/59.94i, 576/50i, 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p, 640 x 480/60 Hz, 800 x 600/60 Hz, 1024 x 768/60 Hz, 1280 x 768/60 Hz, 1280 x 1024/60 Hz, 1366 x 768/60 Hz, 1400 x 1050/60 Hz, 1600 x 1200/60 Hz, 1920 x 1080/60 Hz, 1920 x 1200/60 Hz * The video signal frame rate must match with the unit's frame rate setting. *1 *2
HDMI Audio	Linear PCM, 24 bits/48 kHz, 2ch
RGB/Component	480/59.94i, 576/50i, 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p, 640 x 480/60 Hz, 800 x 600/60 Hz, 1024 x 768/60 Hz, 1280 x 768/60 Hz, 1280 x 1024/60 Hz, 1366 x 768/60 Hz, 1400 x 1050/60 Hz, 1600 x 1200/60 Hz, 1920 x 1080/60 Hz, 1920 x 1200/60 Hz * The video signal frame rate must match with the unit's frame rate setting. *1 *2
Composite	NTSC, PAL
Output Formats	
HDMI Video	480/59.94i, 576/50i, 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p, 640 x 480/60 Hz, 800 x 600/60 Hz, 1024 x 768/60 Hz, 1280 x 768/60 Hz, 1280 x 1024/60 Hz, 1366 x 768/60 Hz, 1400 x 1050/60 Hz, 1600 x 1200/60 Hz, 1920 x 1200/60 Hz * The output refresh rates of 640 x 480 to 1400 x 1050 are 75 Hz when the unit's frame rate setting is 50 Hz. *1 *2
HDMI Audio	Linear PCM, 24 bits/48 kHz, 2ch

RGB/Component	480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94p, 1080/50p 640 x 480/60 Hz, 800 x 600/60 Hz, 1024 x 768/60 Hz, 1280 x 768/60 Hz, 1280 x 1024/60 Hz, 1366 x 768/60 Hz, 1400 x 1050/60 Hz, 1600 x 1200/60 Hz, 1920 x 1200/60 Hz * The output refresh rates of 640 x 480 to 1400 x 1050 are 75 Hz when the unit's frame rate setting is 50 Hz. *1 *2
Composite	NTSC, PAL
Preview (HDMI)	Video: 1920 x 1080/60 Hz (fixed) * When INPUT is selected, the sources are displayed using a reduced frame rate. Audio: Linear PCM, 24 bits/48 kHz, 2ch
Signal Level/Impedance	
RGB/Component	Signal level: 0.7Vp-p (H, V: 5VTTL) Impedance: 75 ohms
Composite	Signal level: 1.0 Vp-p (luminance), 0.286 Vp-p (chroma [NTSC]), 0.3 Vp-p (chroma [PAL]) Impedance: 75 ohms
Analog Audio	Nominal input level: +4 dBu Maximum Input Level: +22 dBu Impedance: 15 k-ohms
Video Effects	
Transition	Mix, Cut, Wipe (9 patterns)
Composition	Picture in Picture, DSK (Luminance Key, Chroma Key)
Audio Effects	
Delay	0.0 to 12.0 frames
Others	
Dimensions	317 (W) x 266 (D) x 108 (H) mm 12-1/2 (W) x 10-1/2 (D) x 4-1/4 (H) inches
Weight	3.4 kg, 7 lbs 8 oz (excluding AC Adaptor)

*1: Conforms to VESA DMT Version 1.0 Revision 11

*2: 1920 x 1200/60 Hz: Reduced blanking

(0dBu=0.775Vrms)

LVS-800

Video Mix/Live Switcher

Innovative 8-channel video mixer with DSK (Downstream Keyer) and Two separate PC/RGB inputs

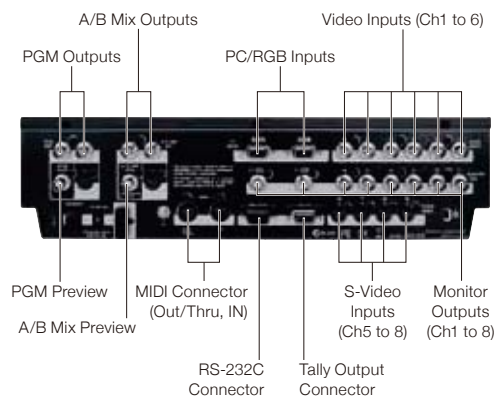
V-LINK



A/B Mix

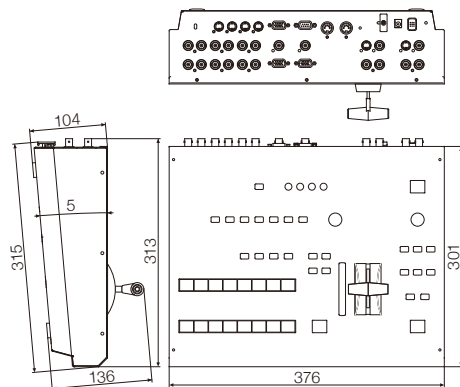
DSK

(Downstream Keyer: Composition Function)



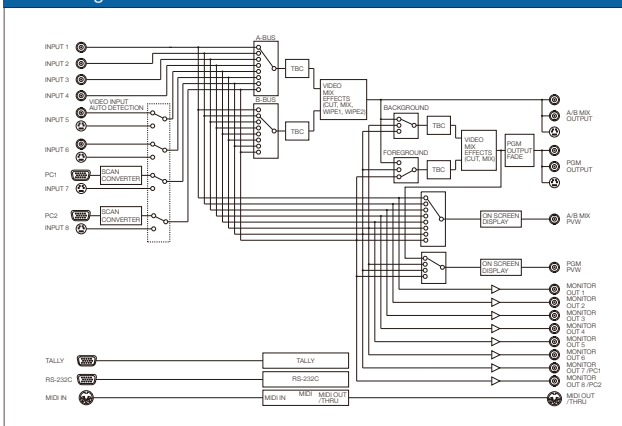
- 8 video inputs and 2 independent outputs for multi-screen applications
- Downstream keyer for seamless mixing under title/graphics
- Two PC/RGB inputs for mixing between computer sources

- Panel Presets for instant recall of mixer configurations
- Remote control using RS-232C, V-LINK/MIDI
- Equipped with Tally Outputs



Unit: mm

Block Diagram



SPECIFICATIONS LVS-800

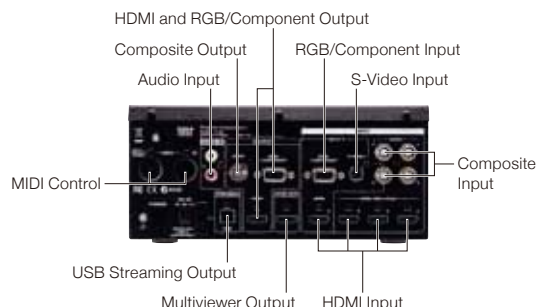
Video Format	Video: NTSC or PAL (ITU601) PC-RGB: 640 x 480/120 Hz, 800 x 600/120 Hz, 832 x 624/80 Hz, 1024 x 768/80 Hz, 1152 x 864/80 Hz, 1152 x 870/75 Hz, 1280 x 1024/75 Hz, 1600 x 1200/60 Hz (RGB VH: positive/negative logic) * VESA DMT Version 1.0 Revision 10 conform. * The refresh rate is the maximum value of each resolution.
Sampling Rate	Video 4:2:2 (Y:B-Y:R-Y), 8-bit, 13.5 MHz
Frame Synchronizer	4 Systems
Video Transition	A/B MIX: Cut, Mix (Dissolve, FAM, NAM), Wipe (Hard edge wipe, Soft edge wipe), DSK: Cut, Mix (Dissolve)
Video Composition	A/B MIX: Picture in Picture DSK: Luminance Key, Chroma Key, Picture in Picture
Input Level/Impedance	Video (Composite): 1.0 Vp-p, 75-ohms S-Video: Luminance Signal 1.0 Vp-p, 75-ohms, Chroma Signal 0.286 Vp-p, 75 (NTSC)/0.3 Vp-p, 75 (PAL) PC-RGB: 0.7 Vp-p, 75 (H, V: 5 V TTL)
Output Level/Impedance	Video (Composite): 1.0 Vp-p, 75-ohms S-Video: Luminance Signal 1.0 Vp-p, 75-ohms, Chroma Signal 0.286 Vp-p, 75 (NTSC)/0.3 Vp-p, 75 (PAL)

Connectors	<Input> Video (Composite): BNC type x 6 (Ch1 to 6) S-Video: 4-pin mini DIN type x 4 (Ch5 to 8) PC-RGB: D-SUB 15-pin shrink type x 2 (Ch7 to 8) * S-Video input takes priority for channels 5 to 8. <Output> A/B MIX: 4-pin mini DIN type x 1, BNC type x 2 + Preview x 1 (*1), PGM-OUT: 4-pin mini DIN type x 1, BNC type x 2 + Preview x 1 (*2) *1: Preview displays one of input channel 1 to 8 video and on-screen menu. *2: Preview displays one of input channel 6 to 8 video and A/B MIX OUT video. <Monitor Output> Video (Composite): BNC type x 8 (Ch1 to 8)
Remote Control Interfaces	MIDI (IN, OUT/THRU), RS-232C (D-SUB 9-pin type)
Tally Output	D-sub 15-pin shrink type, maximum Input = 12 V, 200 mA open collector type
Power	AC Adaptor (Accessory)
Current Draw	2,200 mA
Dimensions	376 (W) x 315 (D) x 136 (H) mm, 14-13/16 (W) x 12-7/16 (D) x 5-3/8 (H) inches
Weight	4.3 kg, 9 lbs 8 oz
Accessories	AC Adaptor, BNC to RCA video adapter x 4

V-4EX | 4-Channel Video Mixer

All in one video mixer with HDMI in/out, USB streaming out, and built-in multiviewer with touch control

NEW



480p/576p

AUDIO EMBEDDING

HDCP

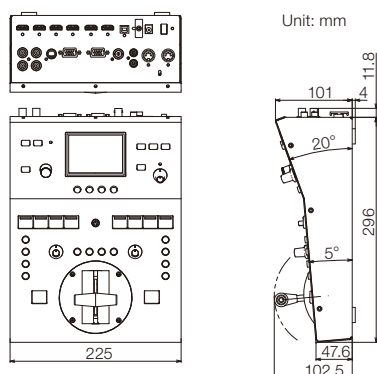
USB 2.0
Video and Audio

V-LINK

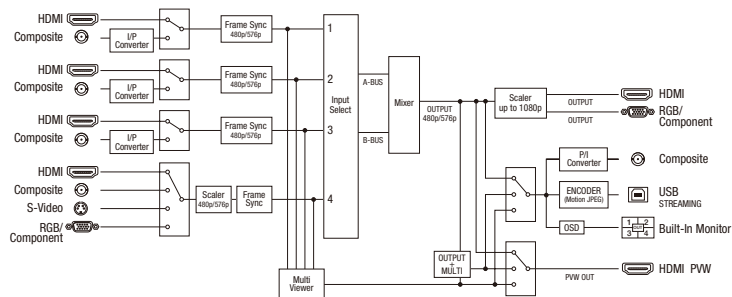
MIDI
VISUAL
CONTROL

- 3 Input (HDMI/Composite) + 1 Input (Up to 1080p HDMI*/RGB/Component/Composite) *downscaled to 480p/576p
- PGM Output (Up to 1080p HDMI* + RGB/Component + Composite) + PVW Output (PVW/Multiviewer) *upscaled from 480p/576p
- 480p/576p Progressive internal processing
- Built-in multiviewer with touch control
- Built-in frame synchronizers on all inputs

- Scalers on CH 4 and Output
- 259 Transitions 148 Effects
- HDCP compliant
- Audio Embedding
- Audio Mixer & Delay - up to 4 frames
- USB Streaming Out for webstreaming



Block Diagram (Video)



* Total latency: 2 frames (from Input 1-3 to Output), 3 frames (from Input 4 to Output)
* Internal Processing: 480/59.94p when set to NTSC, 576/50p when set to PAL

SPECIFICATIONS V-4EX

Processing	
Video Processing	4:2:2 (Y/Pb/Pr), 8 bits (Internal Processing: 480/59.94p when set to NTSC, 576/50p when set to PAL)
Audio Processing	Sampling Rate: 24 bits/48 kHz, 2 ch
Input Formats	
HDMI Video (INPUT 1 to 3)	480/59.94p (when set to NTSC) 576/50p (when set to PAL)
HDMI and RGB/Component Video (INPUT 4)	480/59.94i, 480/59.94p, 720/59.94p, 1080/59.94i, 1080/59.94p (when set to NTSC), 576/50i, 576/50p, 720/50p, 1080/50i, 1080/50p (when set to PAL)
HDMI Audio	Linear PCM, 24 bits/48 kHz, 2 ch
RGB	640 x 480/60Hz, 800 x 600/60Hz, 1024 x 768/60Hz, 1280 x 768/60Hz, 1280 x 1024/60Hz, 1366 x 768/60Hz, 1400 x 1050/60Hz, 1600 x 1200/60Hz, 1920 x 1200/60Hz
Composite Video/S-Video	NTSC, PAL
Output Formats	
HDMI and RGB/Component Video (OUTPUT)	480/59.94i, 576/50i, 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p 640 x 480, 800 x 600, 1024 x 768, 1280 x 768, 1280 x 1024, 1366 x 768, 1400 x 1050, 1600 x 1200, 1920 x 1200 * The output format of HDMI and RGB/Component is always the same. When an interlaced format is selected, component signal is output from the RGB/COMPONENT connector. When a non-interlaced format is selected, RGB signal is output from the RGB/COMPONENT connector.

HDMI Audio (OUTPUT)	Linear PCM, 24 bits/48 kHz, 2 ch
Composite Video	NTSC, PAL
Preview Video (PVW OUT)	480/59.94p when set to NTSC 576/50p when set to PAL
Preview Audio (PVW OUT)	Linear PCM, 24 bits/48 kHz, 2 ch
USB Video	720 x 480 when set to NTSC, 720 x 576 when set to PAL, Motion JPEG
USB Audio	Linear PCM, 16 bits/48 kHz, 2 ch
Others	
Display	Graphic Color LCD, 320 x 240 dots, touch panel
Power Supply	AC adaptor
Current Draw	2.0 A
Accessories	AC adaptor, Power Cord, RCA - BNC conversion plug x 2, Owner's Manual
Dimensions	225 (W) x 296 (D) x 105 (H) mm 8-7/8 (W) x 11-11/16 (D) x 4-3/16 (H) inches
Weight	2.6 kg, 5 lbs. 12 oz.

(0dBu=0.775Vrms)

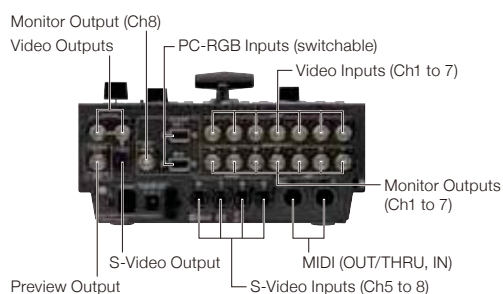
* RGB formats: Conforms to VESA DMT Version 1.0 Revision 11
* 1920 x 1200/60Hz: Reduced blanking

V-8 | 8-Channel Video Mixer

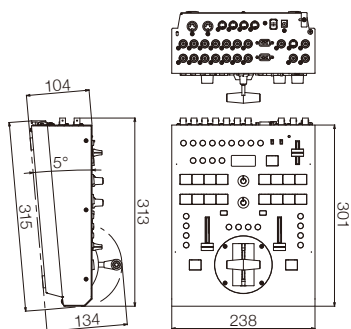
Powerful Eight Input Video Mixer with Two PC/RGB Inputs



V-LINK



- 8 video inputs including built-in scan converter for RGB input
- High image quality 4:2:2 full-frame digital processing
- Support for RGB input (VGA to UXGA)
- Luminance key, chroma key enables logos or text from computer to be overlayed over background video
- Over 260 patterns of various transitions including Mix, Wipe, Key, Slide, Stretch etc.
- Equipped with 25 categories/150 patterns of video effects such as colorize, negative, feedback, after image etc.
- Picture in Picture, Luminance Key and Chroma key are available for compositing videos



Unit: mm

SPECIFICATIONS V-8

Video Format	Video: NTSC or PAL (ITU601) PC-RGB: 640 x 480/120 Hz, 800 x 600/120 Hz, 832 x 624/75 Hz, 1024 x 768/80 Hz, 1152 x 864/80 Hz, 1152 x 870/75 Hz, 1280 x 1024/75 Hz, 1600 x 1200/60 Hz (RGB VH: positive/negative logic) * VESA DMT Version 1.0 Revision 10 conform. * The refresh rate is the maximum value of each resolution.
Video Sampling Rate	4:2:2 (Y:B-Y:R-Y), 8-bit, 13.5 MHz
Power Supply	DC 9 V (AC Adaptor: Roland PSB-1U)
Current Draw	2 A (Preliminary, AC Adaptor PSB-1U 0.4 A)
Dimensions	238 (W) x 315 (D) x 134 (H) mm, 9-3/8 (W) x 12-7/16 (D) x 5-5/16 (H) inches
Weight	3.2 kg, 7 lbs. 1 oz.
Accessories	AC Adaptor, Power Cord, BNC to RCA video adapter x 4, Mount screw for Video fader x 4, Owner's Manual

V-4 | 4-Channel Video Mixer

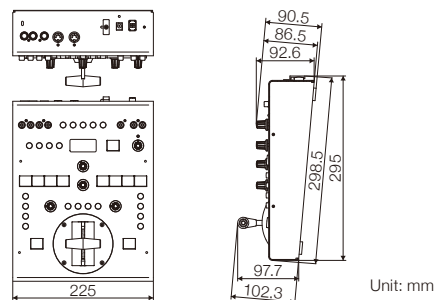
Four input video mixer with many high quality video effects



V-LINK



- Designed as visual performance mixer
- 4 inputs and 3 outputs enabling switching, mixing and compositing of any two inputs
- DV quality images with clean digital processing
- Independent 2 channel TBC enables smooth mixing/switching
- More than 90 types of effects and more than 240 types of wipe patterns
- BPM Sync to match visuals to the beat of the music
- V-LINK/MIDI provides synchronization with sound



Unit: mm

SPECIFICATIONS V-4

Video Format	NTSC or PAL (ITU601), Video Sampling Rate: 13.5 MHz, 4:2:2 (Y:B-Y:R-Y), 8-bit, Frame Synchronizer x 2
Transition Effects	Hard Edge Wipe, Soft Edge Wipe, Multi-Border Wipe, Slide
Video Effects	Still, Strobe, Shake, Negative, Colorize, Mono Color, Posterize, Color Pass, Multi, Mirror
Compositing Effects	Picture-in-Picture, Chroma Key, Luminance Key
Video Input	S-Video: 4-pin mini DIN type x 2 Video (composite): RCA pin type x 4 (If S-Video is simultaneously, S-Video takes priority)
Video Output	S-Video: 4-pin mini DIN type x 1 Video (composite): BNC type x 2
Preview Output	Video (composite): RCA pin type x 1
Remote Control Interface	MIDI (In/Out): 5-pin DIN type
Power Supply	AC Adaptor
Current Draw	1500 mA
Dimensions	225 (W) x 295 (D) x 105 (H) mm 8-7/8 (W) x 11-5/8 (D) x 4-3/16 inches
Weight	2.3 kg, 5 lbs. 2 oz.
Accessories	AC Adaptor, T-Bar attachment screws x 4 (spares)

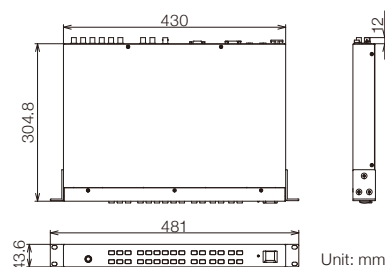
MVS-12 | Multi-Viewer/Switcher

Multi-viewer for convenient video monitoring with simple matrix switcher

V-LINK

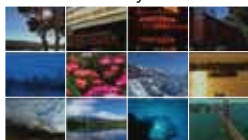


- Groups and displays up to 12 SD video signals to a single HD or RGB monitor
- Matrix switcher function enables ability to assign 12 inputs to 4 different outputs
- Four setups can be stored and recalled
- Controllable via Ethernet, RS-232C and MIDI
- Displays channel selection on monitor using V-LINK

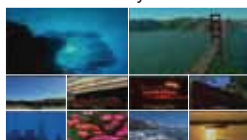


4 Multi-Viewer Layouts

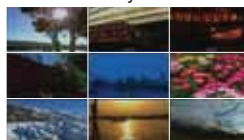
● 12 Screen Layout



● 10 Screen Layout



● 9 Screen Layout

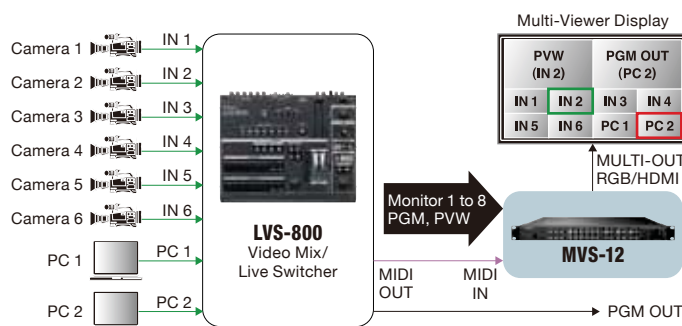


● 4 Screen Layout



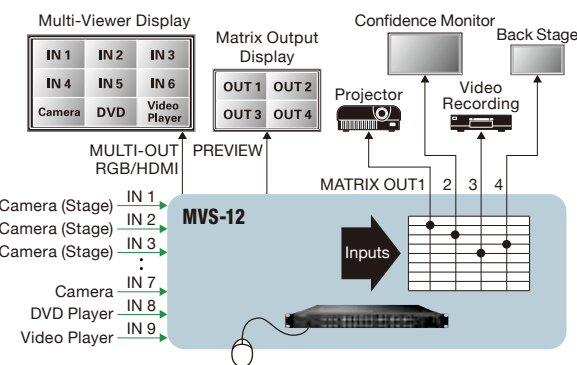
Multi-viewer and Matrix switcher function enables system expansion

● Monitoring for Switcher



The MVS-12 is a perfect companion for the LVS-800 allowing you to preview all monitor outputs. Using a MIDI connection the PGM/PVM video source is displayed and indicated by a red frame and green frame (tally).

● Monitoring for Video Installation



Video sources can be distributed to up to four different locations.

SPECIFICATIONS MVS-12

Video Format	Composite: NTSC or PAL HDMI, PC-RGB: 1920 x 1080 (60/50 Hz), 1680 x 1050 (60/75 Hz), 1600 x 900 (60/75 Hz), 1440 x 900 (60/75 Hz), 1280 x 1024 (60/75 Hz), 1280 x 720 (60/50 Hz), 1024 x 768 (60/75 Hz) (Progressive Scan)
Sampling Rate	4:2:2 (Y:B-Y:R-Y), 8-bit, 13.5 MHz (ITU-R BT.601)
Input/Output Level and Impedance	Composite: 1.0 Vp-p, 75 ohms PC-RGB: 0.7 Vp-p, 75 ohms (H, V: 5V TTL)
Connectors	Video Input Composite: BNC type x 12 jacks Output Connectors Composite (for MATRIX OUT): BNC type x 4 jacks Composite (for MATRIX OUT Preview): BNC type x 1 jack HDMI (for MULTI-OUT, MENU) x 1 jack PC-RGB (for MULTI-OUT, MENU): D-Sub 15pin type x 1 jack
Other Connectors	Ethernet 10/100Base-Tx RJ45 type x 1 jack RS-232C DB-9 type x 1 jack MIDI IN 5-pin DIN type x 1 jack MIDI OUT/THRU 5-pin DIN type x 1 jack Mouse PS/2 type *Not bundled.

Power Supply	AC Adaptor (Accessory)
Current Draw	2 A
Dimensions	481 (430 without rack mount bracket) (W) x 320 (D) x 44 (H) mm 18-15/16 (16-15/16 without rack mount bracket) x 12-5/8 (D) x 1-3/4 (H) inches
Weight	3.0 kg 6 lbs. 10 oz. (without AC Adaptor)

* MONITOR: XGA (1024 x 768 pixels) or greater, HDMI or Analog RGB input is required.
HDMI OUTPUT Connection: Audio is not supported. HDMI version is 1.2. Supports EDID when the setup is AUTO.
RGB OUTPUT Connection: Manual pixel rate setup is needed.
Aspect Ratio: In MULTI-OUT, display aspect and each input aspects can be adjusted individually. MATRIX OUTPUT has no aspect adjustment function.
Switching: An mixed image before and after switching may appear on MATRIX Output at switching.

VR-50HD

Multi-Format AV Mixer

An all-in-one HD Multi-Format AV Mixer with built-in USB 3.0 for Web Streaming and Recording

NEW

AUDIO

12-Channel Digital Audio Mixer

The VR-50HD features a 12-channel digital audio mixer that mixes audio from cameras in addition to sound from four microphones, computers, and DVD players. Capturing and mixing 3G/HD/SD-SDI/HDMI audio in the audio mixer is also possible. Using the "Audio Follow" feature, you can even make the audio switch automatically from one source to another as the video source changes. Built-in delay and equalizer features make possible a broad range of use, from seminars to musical events.



12 input, 4-Channel Multi-Format Video Switcher

A total of 12 HDMI, 3G/HD/SD-SDI/SDI, RGB/COMPONENT, and composite inputs are provided. In addition to professional HD cameras, you can connect equipment that ranges from computers and Blu-ray and DVD players to allow video cameras using composite output. The unit features multi-format specifications that allows you to never have to worry about differences in resolution among input devices.

* 6 channel switching is possible when not using compositing features such as PinP and Key.

AUDIO Output

SDI, HDMI: Linear PCM, 24 bit, 48 kHz, 2 ch
USB: Linear PCM, 16 bit, 48 kHz, 2 ch

Audio is mixed and re-embedded into the SDI, HDMI, and analog outputs as well as the USB output. Each of the outputs are assignable from the Main bus or Aux bus.

USB STREAMING Output

Uncompressed up to 1080/59.94p (USB 3.0), up to 720/29.97p (USB 2.0)

The resolution and frame rate of the video format can be changed thanks to the dedicated scaler for the USB output. Output is assignable from PGM or AUX bus.

HDMI MULTI-VIEW Output

1080/59.94p with HDCP
Seven-way multi-viewer

HDMI Output

Up to 1080p
HDCP support

Each of the outputs are assignable from PGM, PVW, or AUX bus.

Four Layer Composition



VIDEO

Built-In Preview Touch Monitor

The large 7-inch touch panel can be switched between seven-way multi-view, the quad view of inputs, still picture, and program out. By directly touching on the video that you want to switch to, the touch monitor allows for extremely easy operation.



Transition Effects

You can choose to cut, mix, or wipe by pressing the corresponding transition button. The Time dial lets you instantly apply an effect time of 0 to 4 seconds. Even without a T-bar, it's possible to achieve flexible switching.



AUDIO Input

SDI, HDMI: Linear PCM, 24 bit, 48 kHz, 2 ch

12 analog inputs or from audio embedded in the 4 SDI or 4 HDMI inputs. The XLR jacks are provided with selectable phantom power.

RGB/COMPONENT Input/Output

Up to 1080p

COMPOSITE Input

NTSC or PAL

3G/HD/SD SDI Input/Output

Up to 1080p
3G SDI supports Level A and B.

Each of the outputs are assignable from PGM, PVW, or AUX bus.

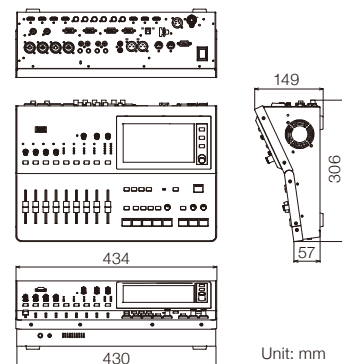
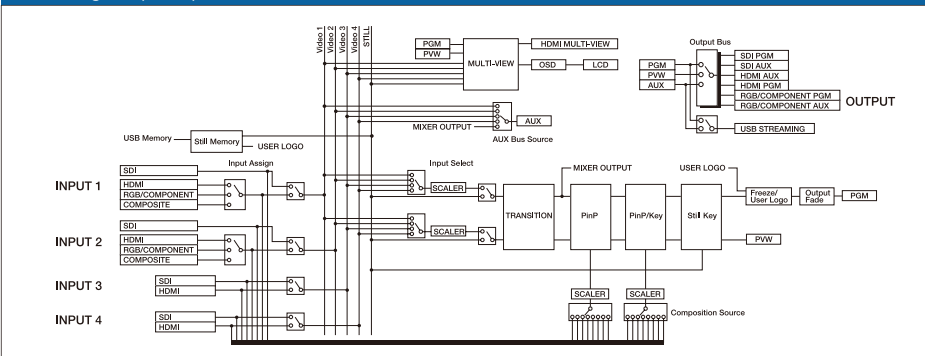
HDMI Input

Up to 1080p
HDCP support

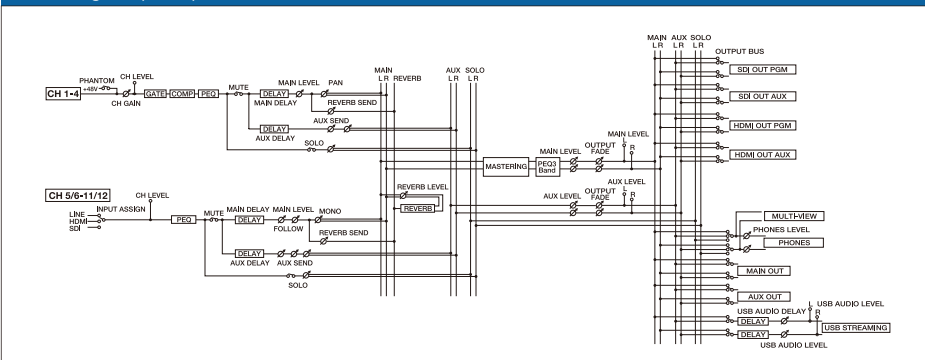
- 12 input, 4-Channel Video plus still channel Multi-Format Switcher
- Supports 3G/HD/SD SDI, HDMI, RGB/Component, and Composite Video Inputs Up to 1080p (3G SDI)
- Embedding of audio with delay settings
- 12-Channel Digital Audio Mixer with XLR, TRS, and RCA jacks along with audio from SDI and HDMI inputs

- 4 Layer, Compositing of PinP, PinP/KEY, and STILL
- Built-In Preview Touch Monitor (7 inch Graphic color LCD 800 x 480 dots)
- External Multi-View Output through HDMI
- HDCP Support
- USB 3.0 Video/Audio Output for web streaming and recording up to 1080p (uncompressed)

Block Diagram (Video)



Block Diagram (Audio)



Video Capture for VR

Video Capture for VR is software that captures video and audio signals output from the VR-50HD USB port and saves them to movie files on your connected Windows/Mac.



Free download from www.rolandsystemsgroup.net

SPECIFICATIONS VR-50HD

VIDEO

Processing 4:4:4 (RGB), 10-bit
4:2:2 (Y/Pb/Pr), 10-bit

Input Connectors

3G/HD/SD-SDI: BNC type x 4 (INPUT 1 to 4)
* Conforms to SMPTE 424M (SMPTE 425M-AB), 292M, 259M-C.
HDMI (DVI-D): Type A (19-pin) x 4 (INPUT 1 to 4)
* HDCP Supported.
Analog RGB/HD-Component: Mini D-sub 15-pin type x 2 (INPUT 1 to 2)
Analog Video (SD): Composite (BNC type) x 2 (INPUT 1 to 2)
* INPUT 1-2: Select SDI, HDMI or Analog RGB, Composite using menu.
* INPUT 3-4: Select SDI, HDMI using menu.

Output Connectors

3G/HD/SD-SDI: BNC type x 2 (PGM OUT, AUX OUT)
* Conforms to SMPTE 424M (SMPTE 425M-AB), 292M, 259M-C.
HDMI (DVI-D): Type A (19-pin) x 3 (PGM OUT, AUX OUT, MULTI VIEW)
* HDCP Supported.
Analog RGB/HD-Component: Mini D-sub 15-pin type x 2 (PGM OUT, AUX OUT)

Supported Formats

SDI: 480/59.94i, 576/50i, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p
* Conforms to SMPTE 274M, SMPTE 296M, ITU-R BT.601-5.
HDMI *2: 480/59.94i, 576/50i, 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p
1024 x 768/60Hz *1, 1280 x 720/60Hz *1, 1280 x 800/60Hz *1, 1280 x 1024/60Hz *1, 1400 x 1050/60Hz, 1920 x 1080/60Hz
HDMI (MULTI-VIEW Output) *2: 1080/59.94p
Component: 480/59.94i, 576/50i, 480/59.94p, 576/50p, 720/59.94p, 720/50p, 1080/59.94i, 1080/50i, 1080/59.94p, 1080/50p
RGB *2: 1024 x 768/60Hz *1, 1280 x 720/60Hz *1, 1280 x 800/60Hz *1, 1280 x 1024/60Hz *1, 1400 x 1050/60Hz, 1920 x 1080/60Hz
Composite: NTSC, PAL
* Conforms to ITU-R BT.601-5.
*1: Output refresh rate is 75 Hz when frame rate is set to 50 Hz.
*2: Conforms to CEA-861-E or VESA DMT Version 1.0
Revision 11.
* The video signal frame rate must match the unit's frame rate setting.
USB-VIDEO: 480/29.97p, 576/25p, 480/59.94p, 576/50p, 720/29.97p, 720/25p, 720/59.94p, 720/50p, 1080/29.97p, 1080/25p, 1080/59.94p, 1080/50p
Still Image: Windows® Bitmap File (.bmp)
* Maximum 1920 x 1080 pixels, 24-bit per pixel, uncompressed.

AUDIO

Processing Sampling Rate: 24-bit/48 kHz
AUDIO IN (1 to 4) jacks (XLR/TRS combo type)
* XLR type: 1 GND, 2 HOT, 3 COLD
* Phantom Power: DC 48 V (unloaded maximum), 5 mA (maximum load) (Current value per channel).
AUDIO IN (5 to 8) jacks (RCA phono type)
AUDIO IN (9 to 12) jacks (TRS type)

Input Connectors

Output Connectors

AUDIO OUT L, R jacks (XLR-3-32 type)
* XLR type: 1 GND, 2 HOT, 3 COLD
AUDIO OUT L, R jacks (RCA phono type)
PHONES jack (Stereo 1/4-inch phone type) (headphones)
PHONES jack (Stereo miniature type) (headphones)

Input Level and Impedance

XLR/TRS: -68 to +4 dBu (Maximum: +22 dBu, 4 k ohms)
RCA phono: -10 dBu (Maximum: +8 dBu, 11 k ohms)
TRS: +4 dBu (Maximum: +22 dBu, 98 k ohms)

Output Level and Impedance

XLR: +22 dBu (Maximum: +22 dBu, 600 ohms)
RCA phono: -10 dBu (Maximum: +8 dBu, 1 k ohms)
Headphones: 25 mW + 25 mW, 20 ohms

Effects

Channel Effects: Compressor, Noise Gate, 3-Band EQ, Delay
Master Effects: Mastering, 3-Band EQ, Reverb

OTHERS

Remote Remote MIDI: 5-pin DIN type (IN, OUT/THRU)
RS-232C: D-sub 9-pin type x 1

Interface

USB 2.0 port (host): Hi-Speed USB: Type A (for USB memory)
USB 3.0 port (device): Type B for USB-VIDEO (Super-Speed/Hi-Speed), USB-AUDIO (Full-Speed)

Display

7 inch Graphic color LCD 800 x 480 dots (touch screen)

Power Supply

AC Adaptor DC 24 V
Secondary AC Adaptor DC 12 V to 16 V (XLR-4-32 type)

Current Draw

2.5 A (DC 24 V)

Dimensions

434 (W) x 306 (D) x 149 (H) mm
17-1/8 (W) x 12-1/16 (D) x 5-7/8 (H) inches

Weight

5.3 kg, 11 lbs 11 oz (without AC Adaptor)

Operation Temperature

+0 to +40 degrees Celsius
+32 to +104 degrees Fahrenheit

Accessories

AC Adaptor, Power Cord, Owner's Manual

(0dBu=0.775Vrms)

* This product is a Class A digital device under FCC part 15.

VR-5 | AV Mixer & Recorder

All-in-one AV Mixer for stand-alone recording and live streaming



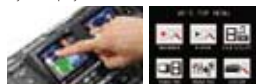
USB Port ready for Live Streaming * The world's first USB Video/Audio Class supported AV mixer. Simply connect like a Web camera to enable easy live streaming. *Our research at time of printing

Connect to a PC via USB

MONITOR

Intuitive operation with Dual Touch Monitors

Select the input source by touching the quad-view layout display. Menu parameters are easily accessed and set.



PC INPUT

Audio and video from a PC

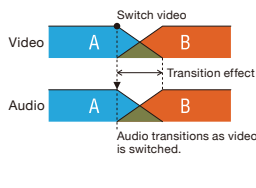
RGB input and stereo-mini Audio input



AUDIO MIXER

Full digital audio mixing

Audio Follow function



VIDEO/PC SELECT

Video switching with a single touch of a button



VIDEO/AUDIO OUTPUT

RECORDER

Record to SD memory card

Supports SD and SDHC memory cards.



Note: Video can not be played back when recording.

VR-5 Image Converter (Win/Mac)

Software for preparing data to be played back from the VR-5 is available from the Roland Systems Group website.

Supported Formats:
AVI, MPG, MOV, WMV, MP4, DV

KEYER

Control transparency with a single knob

Chroma Key Composite a person over a background Luminance Key Composite text over a background



VIDEO EFFECTS

Simple video compositing

Transition between sources with various switching effects

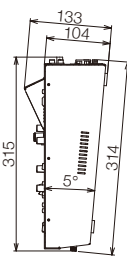
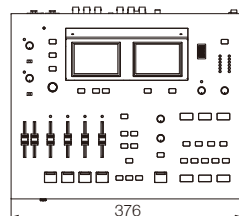
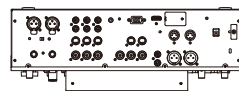
SPLIT displays two video sources simultaneously

PinP plays a small window in the main source



- 5-Channel Video Switcher (3 video sources, PC input, video playback)
- 2 Mono and 5 Stereo Mixable Audio Channels
- Built-in scan converter for PC input
- Built-in dual LCD monitors with touch control for easy video source selection

- Three video layers for 2 video sources plus DSK (downstream keyer)
- Video player/recorder
- USB video/audio class device for web streaming



Unit: mm

Let's start live streaming with 4 easy steps!

1

Connect cameras

Composite or S-Video sources including DVD players.



2

Connect microphones

Any type of mic including condensers.



3

Connect PC via USB

Via USB, the VR-5 appears like a web cam



4

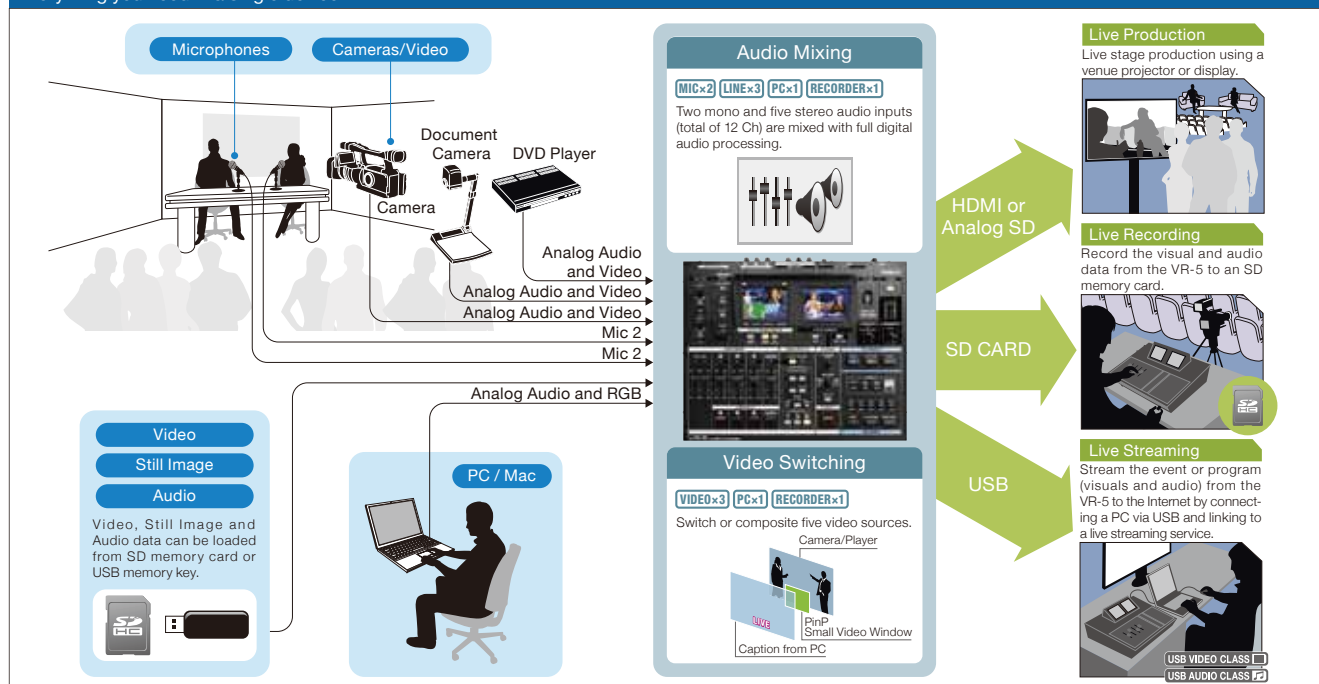
Stream online + Capture live



Live broadcasting using various web streaming services



Everything you need in a single device



SPECIFICATIONS VR-5

VIDEO	
Video Format	Video: NTSC or PAL (ITU601) PC-RGB: 640 x 480/120 Hz, 800 x 600/120 Hz, 1024 x 768/80 Hz, 1152 x 864/75 Hz, 1280 x 1024/75 Hz, 1600 x 1200/60 Hz (RGB VH: positive/negative logic) * VESA DMT Version 1.0 Revision 10 conform. * The refresh rate is the maximum value of each resolution.
Video Sampling Rate	Video: 4:2:2 (Y:B-Y:R-Y), 8 bits, 13.5 MHz
Input Level and Impedance	<Video (composite)> 1.0 Vp-p, 75 ohms <S-video> Luminance signal: 1.0 Vp-p, 75 ohms Chrominance signal: 0.286 Vp-p, 75 ohms (NTSC)/0.3 Vp-p, 75 ohms (PAL) <PC-RGB> 0.7 Vp-p, 75 ohms (H, V: 5 V TTL)
Output Level and Impedance	<Video (composite)> 1.0 Vp-p, 75 ohms <S-video> Luminance signal: 1.0 Vp-p, 75 ohms Chrominance signal: 0.286 Vp-p, 75 ohms (NTSC)/0.3 Vp-p, 75 ohms (PAL)
Connectors	<Input> Video (composite): BNC type x 3, S-video: 4-pin mini DIN type x 3, PC-RGB: D-Sub 15-pin Shrink type x 1 * Inputs 1 to 3; When S-video is simultaneously input to 1 to 3, S-video takes priority <Output> Video (composite): BNC type x 2, S-video: 4-pin mini DIN type x 2 <Preview Output> Video (composite): BNC type x 1
AUDIO	
Internal Processing	Sample Rate: 24-bit/48.0 kHz
Input Level	<AUX AUDIO INPUT> +4 dBu to -68 dBu (variable) Max: +22 dBu <Channel 1/2/3> -10 dBu Max: +8 dBu <PC AUDIO> -15 dBu Max: +3 dBu
Input Impedance	<AUX AUDIO INPUT> XLR type: 4 k ohms, TRS phone type: 6 k ohms <Channel 1/2/3 and PC AUDIO> 15 k ohms
Input Level	AUX AUDIO INPUT: XLR-3-31 type (balanced, phantom power), 1/4 inch TRS phone type (balanced/unbalanced) * TRS type takes priority Channel 1/2/3: RCA phono type PC AUDIO: Stereo miniature type
Output Level	<AUDIO OUTPUT> -10 dBu Max: +8 dBu <PHONES> 50 mW + 50 mW
Output Impedance	<AUDIO OUTPUT> XLR type: 600 ohms, TRS phone type: 1 k ohms <PHONES> 10 ohms

Output Connectors	AUDIO OUTPUT: XLR-3-32 type (balanced), RCA phono type PHONES: Stereo 1/4 inch phone type
RECORDER	
Recording Format	<Format> MP4 (.mp4) Video Codec: MPEG-4 Visual Audio Codec: MP3 (MPEG-1 Audio Layer-3)
Bit Rate	2 Mbps, 4 Mbps, 6 Mbps
Media	SD Memory Card (1 to 2 GByte), SDHC Memory Card (Max 32 GByte), Class 4 or greater
File System	FAT32 (Max file size of 4 GByte)
Movie Size	TV Size: NTSC (720 x 480), PAL (720 x 576)
File System	Recorded file is up to 4 GByte. Bit Rate at 2 Mbps: approximately 4 hours/4 GByte Bit Rate at 4 Mbps: approximately 2 hours/4 GByte Bit Rate at 6 Mbps: approximately 80 minutes/4 GByte
Supported Playback Format	<Video File Format> .MP4, .AVI Video Codec: MPEG-4 Visual Audio Codec: MP3 (MPEG-1 Audio Layer-3) <Audio File Format> .WAV, .MP3 <Picture File Format> .BMP, .JPG
OTHER CONNECTORS	
HDMI Connector	<Resolution> Setup to NTSC: 480p, Setup to PAL: 576p OUTPUT or PREVIEW OUTPUT
USB A Type Connector	For USB Storage device, For USB Video Stream output (Support UVC/UAC) USB 2.0 High-Speed
Remote Control Interfaces	MIDI IN: 5-pin DIN type x 1 jack MIDI OUT/THRU: 5-pin DIN type x 1 jack
OTHERS	
Transition Effects	Switcher: Cut, Mix, Hard edge wipe, Soft edge wipe DSK: Cut, Mix
Video Effects	Luminance key, Chroma key, Picture-in-picture, Split
Power Supply	DC 12 V (AC Adaptor)
Current Draw	3 A (AC Adaptor)
Dimensions	376 (W) x 315 (D) x 133 (H) mm 14-13/16 (W) x 12-3/8 (D) x 5-1/4 (H) inches
Weight	4.3 kg, 9 lbs 8 oz (without AC Adaptor)

(0dBu=0.775Vrms)

VR-3 | AV Mixer

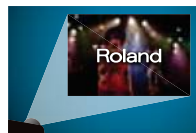
Portable Audio and Video Mixer with USB port Ready for Live Streaming



Live Production

Live stage production using a projector or display.

Show computer image as main display or use the composite out for mixed image.



Live Streaming

USB video/audio class device for webstreaming or recording with a PC/Mac.

Stream the event (visuals and audio) to the Internet by connecting to a computer via USB and linking to a live streaming service.

USB AUDIO CLASS

USB VIDEO CLASS



VIDEO

VIDEO SELECT

Built-in LCD monitor with touch control for easy video source and menu selection.

You can monitor four inputs and the output. Monitor can be used to view a quad display of inputs, program out or combination quad view with program out. When the [INPUT] button and [OUTPUT] button are pressed simultaneously, the output picture is overlaid on a four-way split screen of the input.



VIDEO INPUT [4] switchable between Composite or PC. A built-in scan converter is available for the PC input to allow it to be mixed with the other video sources. A PC thru jack is also included enabling direct connection to a projector or display with no reduction in resolution.



AUDIO

AUDIO MIXER

Hands-on mixing for live performance and production.

4 Mono (XLR or 1/4") and 2 stereo mixable audio channels, Built-in stereo microphone for mixing in ambient sound.



Easy operation thanks to faders as well as GAIN/EQ/PAN dials for improving the sound.

AUDIO EFFECTS

Reverb control that enables adjustment of sound space.

Digital Audio effects include: Noise Gate, EQ, Reverb, Noise Suppressor, Enhancer and Master Lo/Hi Filters. Select them using the menu on the touch screen monitor.



Master Lo/Hi Filters enable stable mixing for audio streaming.

VIDEO EFFECTS

Simple video compositing.

In addition to Transition effects, Picture in Picture (PiP) and SPLIT are also available. Simply select an effect and the respective video sources.

Transition between sources with various switching effects.



SPLIT displays two video sources simultaneously.



PinP inlays a small window in the main source.



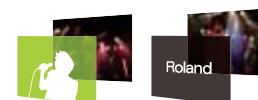
PinP inlays a small window in the main source.



KEYER

Control transparency with a single knob.

Advanced video composition such as placing a person or text over a background video source can be fine-tuned using a single knob.



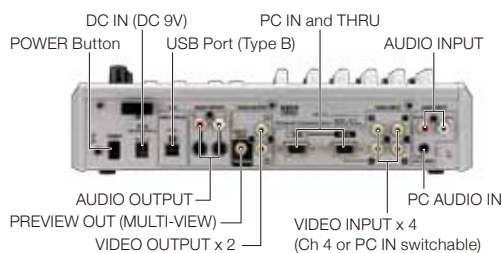
Chroma Key
Composite a person over a background.

Luminance Key
Composite text over a background.

- 4-Channel Video Switcher (3 Composite video sources + 1 Composite/PC switchable)
- 4 Mono (XLR or 1/4") and 2 stereo mixable audio channels
- Built-in stereo microphone for mixing in ambient sound
- Built-in scan converter for PC input with a thru for connecting a projector or display
- Built-in single LCD monitor with touch control for easy video source and menu selection

- Monitor can be used to view a quad display of inputs, program out or combination quad view with program out
- Compositing video effects include: keying, split screen, picture-in-picture
- Digital audio effects include: Noise Gate, EQ, Reverb, Noise Suppressor, enhancer and master Lo/Hi filters
- USB video/audio class device for web streaming or recording with a PC/Mac

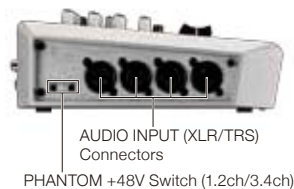
Rear Panel



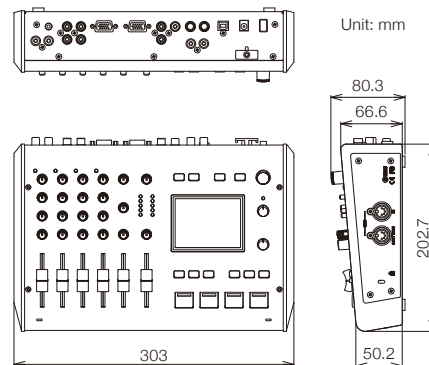
Front Panel



Left Side Panel

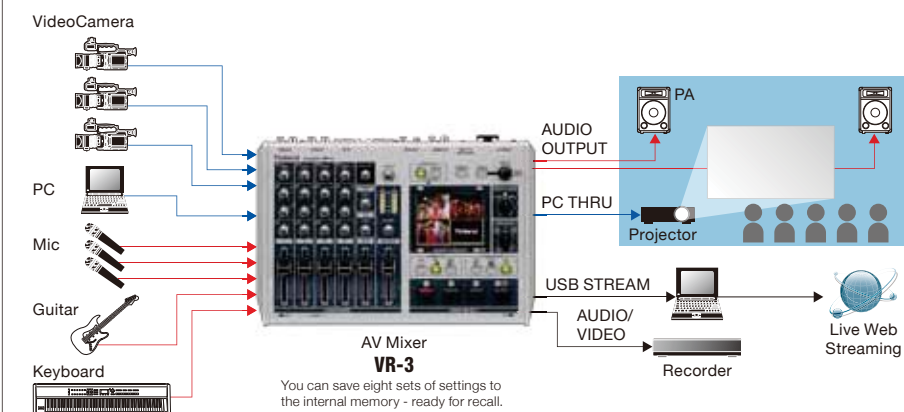


Right Side Panel



Unit: mm

Application Sample



Video Capture for VR for Windows and Mac



Free download from
www.rolandsystemsgroup.net

SPECIFICATIONS VR-3

VIDEO	
Input Connectors	VIDEO IN 1 to 4 jacks (Composite: RCA phono type) PC IN connector (DB-15 type)
Output Connectors	VIDEO OUT 1, 2 jacks (Composite: RCA phono type) VIDEO OUT MULTI-PREVIEW jack (Composite: RCA phono type) PC THRU connector (DB-15 type) (THRU)
Video Format	Composite: NTSC or PAL PC IN: 800 x 600 (120 Hz), 832 x 624 (75 Hz), 1024 x 768 (80 Hz), 1152 x 864 (75 Hz), 1152 x 870 (75 Hz), 1280 x 720 (60 Hz), 1280 x 768 (75 Hz), 1280 x 800 (75 Hz), 1280 x 1024 (75 Hz), 1366 x 768 (75 Hz) * The refresh rate is the maximum value of each resolution.
Sampling Rate	4:2:2 (Y:R-Y:B-Y), 8-bit, 13.5 MHz (ITU-R BT.601)
Input/Output Level and Impedance	Composite: 1.0 Vp-p, 75 ohms PC IN: 0.7 Vp-p, 75 ohms (H, V: 5V TTL)
AUDIO	
Input Connectors	AUDIO IN 1 to 4 jacks (XLR/TRS combo type, phantom power) AUDIO IN 5 to 6 jacks (RCA phono type) AUDIO IN 7 to 8 jack (Stereo miniature type) MIC (Internal stereo microphones)
Phantom Power	DC 48 V (unloaded maximum), 5 mA (maximum load) * Current value per channel.
Output Connectors	AUDIO OUT L, R jacks (Stereo 1/4-inch phone type) AUDIO OUT L, R jacks (RCA phono type) PHONES jack (Stereo 1/4-inch phone type) (headphones) PHONES jack (Stereo miniature type) (headphones)

Sampling Rate	48 kHz (24-bit)
Input Level and Impedance	XLR/TRS: -68 to +4 dBu (Maximum: +22 dBu, 4 k ohms) RCA phono: -10 dBu (Maximum: +8 dBu, 15 k ohms) Miniature: -15 dBu (Maximum: +3 dBu, 15 k ohms)
Output Level and Impedance	1/4-inch phone/RCA phono: -10 dBu (Maximum: +8 dBu, 1 k-ohm) Headphones: 25 mW + 25 mW, 10 ohms
OTHER CONNECTORS	
USB connector	Hi-Speed USB: USB Type B, USB-VIDEO, USB-AUDIO Resolution: 720 x 480 (29.97 fps/Motion-JPEG) Audio: 48 kHz/16 bit
Remote	MIDI IN, OUT/THRU (5-pin DIN type)
Display	Graphic color LCD 320 x 240 dots (touch screen)
Power Supply	DC 9 V
Current Draw	1.5 A
Dimensions	303 (W) x 202.7 (D) x 80.3 (H) mm 11-15/16 (W) x 8 (D) x 3-3/16 (H) inches
Weight	2.0 kg (without AC Adaptor), 4 lbs 7 oz

(0dBu=0.775Vrms)

VC-300HDMulti-format
Video Converter**VC-200HD**Multi-format
Video Converter

Bi-directional Multi-format Video Converter with embedded Audio support

Supports progressive conversion formats including 24p Frame Rates



■ VC-300HD

1U



HDV/DV (IEEE1394 6-pin)

Audio Input (XLR, RCA)

HD/SD-SDI (In/Out)

DVI-I Input

Component Input



RS-422

Audio Output
(XLR, RCA)

DVI-I Output

REF
(In/Out)

Component Output

HDV/DV
(IEEE1394 6-pin)

■ VC-200HD



HDV/DV (IEEE1394 6-pin)

Audio Input (XLR, RCA)

DVI-I Input

Component Input



RS-422

Audio Output
(XLR, RCA)

DVI-I Output

REF
(In/Out)

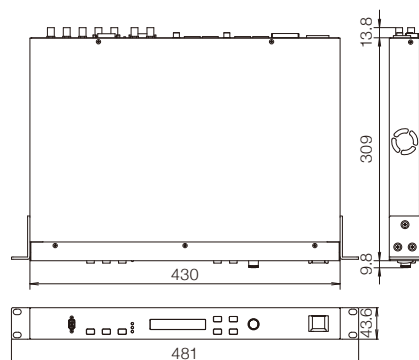
Component Output

HDV/DV
(IEEE1394 6-pin)

- Bi-directional video conversion between Digital and Analog, HD and SD, Compressed and Uncompressed
- High quality A/D and D/A with internal 4:4:4 10-bit signal processing
- Enables frame size scaling, change in frame rate and I<->P
- Gen Lock with external devices

- Time code and Embedded audio are available between HD/SD-SDI and HDV/DV conversion (VC-300HD only)
- Built-in high quality audio delay to achieve perfect lip sync
- Compatible with HDV/DV Cameras and VTR from SONY, Canon and JVC
- Support for 23.976, 24, 25, 29.97, 30, 50, 59.94, 60 frame rates

■ VC-300HD/VC-200HD Dimensions



Unit: mm

Format Conversion Table (○: available)

		OUTPUT FORMAT					
		HDV (1080i/720p)	DV	COMPONENT/ DVI-A**	DVI-D/ HDMI*	HD-SDI	SD-SDI
INPUT FORMAT	HDV (1080i/720p)	—	—	○	○	○	○
	DV	—	—	○	○	○	○
	COMPONENT	○	○	○	○	○	○
	DVI-A/RGB*	○	○	○	○	○	○
	DVI-D/HDMI*	○	○	○	○	○	○
	HD-SDI	○	○	○	○	○	○
	SD-SDI	○	○	○	○	○	○

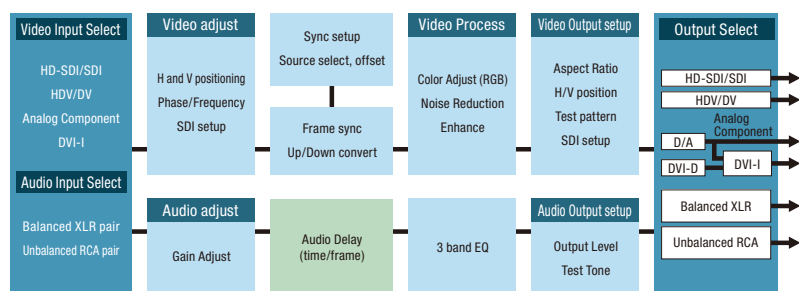
■ For VC-300HD/VC-200HD ■ For VC-300HD only

* RGB and HDMI connection is needed to use conversion cable. HDMI audio and HDCP protection of HDMI are not supported.

** DVI-A output is Y/Pb/Pr signal.

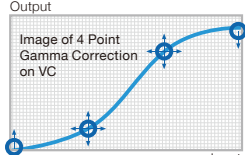
VC-300HD VC-200HD

Multiple Video and Audio Processing Functions



* HDV/DV output is not available when input is HDV/DV.

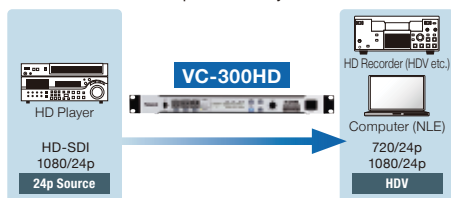
Additional Features

- 4 Point Gamma Correction**
 The newly added 4 points Gamma Correct function enables adjustment of bright/dark part independently. Enhances images to have a more film-like color.
 
- User Presets**
 Parameters like input signal, conversion or processing can be saved to an internal memory. Up to 3 presets can be saved and enables convenient recall.
- Remote Control**
 Remotely control parameter setup of the VC from external devices, like a PC, via RS-422A Remote Terminal. This can be also used for parameter data backup.

Supports 24p Frame Rates

Supports 24p, 23.976p, 25p, 30p, 60p etc.
Enables conversion of footage shot with a variety of cameras.

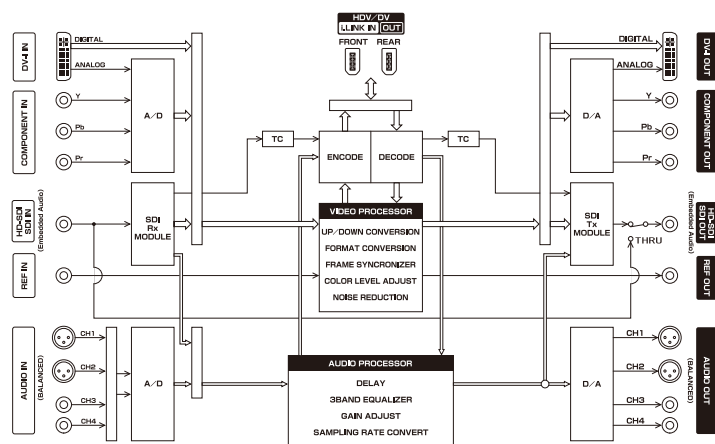
- Enables use of affordable production system and media.



- Use HDV shooting devices with current production systems.



VC-300HD Block Diagram



SPECIFICATIONS VC-300HD/VC-200HD

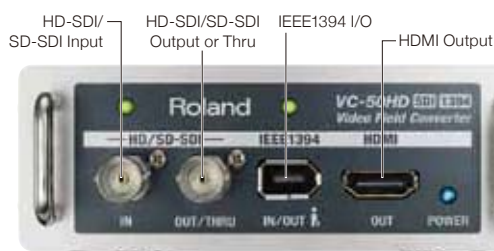
Video Input Format	<p><IEEE1394 (i-LINK)> HDV: 1080/60i, 1080/50i, 1080/30P, 1080/25P, 1080/24P, 720/60P, 720/50P, 720/30P, 720/25P, 720/24P, 576/50P, 480/60P, DV: 576/50i, 480/60i, 480/24p</p> <p><Analog Component> Y/Pb/Pr: 1080/60i, 1080/59.94i, 1080/50i, 1080/24PsF, 1080/23.98PsF, 720/60p, 720/59.94p, 720/50p, 576/50p, 576/50i, 480/59.94p, 480/59.94i</p> <p><DVI-I> Digital (RGB): 1600 x 1200/60 Hz, 1400 x 1050/60/75 Hz, 1360 x 768/60 Hz, 1280 x 1024/60/75 Hz, 1280 x 768/60 Hz, 1280 x 960/60 Hz, 1152 x 864/75 Hz, 1024 x 768/60/75 Hz, 800 x 600/60/75 Hz, 640 x 480/60/75 Hz, Analog (RGB): 1024 x 768/60 Hz, 800 x 600/60/75 Hz, 640 x 480/60/75 Hz</p> <p><HD-SDI/SD-SDI> * 1080/60i, 1080/59.94i, 1080/50i, 1080/30PsF, 1080/30p, 1080/29.97PsF, 1080/29.97p, 1080/25PsF, 1080/25p, 1080/24PsF, 1080/24p, 1080/23.98PsF, 1080/23.98p, 720/60p, 720/59.94p, 720/50p, 720/30p, 720/29.97p, 720/25p, 720/24p, 720/23.98p, 576/50i, 480/59.94i, 1080/24p (Over 60i), 1080/23.98p (Over 59.94i), 720/30p (Over 60p), 720/29.97p (Over 59.94p), 720/25p (Over 50p), 720/24p (Over 60p), 720/23.98p (Over 59.94p), 480/23p (Over 59.94i)</p> <p><Video Sampling Rate> SD: 4:4:4 (Y/Cb/Cr), 10-bits, 13.5 MHz, HD: 4:4:4 (Y/Pb/Pr), 10-bits, 74.1758 MHz/74.25 MHz, RGB: 4:4:4 (R/G/B), 10-bits, 25 MHz to 90 MHz</p>
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Video Output Format	<p><IEEE1394 (i-LINK)> HDV: 1080/60i, 1080/50i, 1080/30, 1080/25, 1080/24P, 1080/24F, 1080/24A, 720/60P, 720/50P, 720/30P, 720/25P, 720/24P, 576/50P, 480/60P, DV: 480/60i (NTSC), 576/50i (PAL)</p> <p><Analog Component> Y/Pb/Pr: 1080/60p, 1080/60i, 1080/59.94p, 1080/59.94i, 1080/50p, 1080/30PsF, 1080/29.97PsF, 1080/25PsF, 1080/24PsF, 1080/23.98PsF, 720/60p, 720/59.94p, 720/50p, 576/50p, 576/50i, 480/59.94p, 480/59.94i, 1080/24p (Over 60i), 1080/23.98p (Over 59.94i), 720/30p (Over 60p), 720/29.97p (Over 59.94p), 720/25p (Over 50p), 720/24p (Over 60p), 720/23.98p (Over 59.94p)</p> <p><HD-SDI/SD-SDI> * 1080/60i, 1080/59.94i, 1080/50i, 1080/30PsF, 1080/29.97PsF, 1080/25PsF, 1080/24PsF, 1080/23.98PsF, 720/60p, 720/59.94p, 720/50p, 480/59.94i, 576/50i, 1080/24p (Over 60i), 1080/23.98p (Over 59.94i), 720/30p (Over 60p), 720/29.97p (Over 59.94p), 720/25p (Over 50p), 720/24p (Over 60p), 720/23.98p (Over 59.94p)</p>
---------------------	--

Audio Input	<p><IEEE1394> HDV: MPEG1 Layer II 16-bit 48 kHz 384 kbps, DV: Linear PCM 16-bit 48 kHz, Nonlinear PCM 12-bit 32 kHz (2ch)</p> <p><Analog> Balanced XLR Type (ch1, ch2): +4 dBu, -2 dBu, -4 dBu, -10 dBu Selectable, Unbalanced RCA pin type (ch3, ch4): +0 dBu, -6 dBu, -8 dBu, -14 dBu Selectable, Audio Sampling Rate: 24-bit, 48 kHz/32 kHz</p> <p><HD-SDI/SDI Embedded Audio (Only VC-300HD)> Linear PCM 24-bit 48 kHz</p>
Audio Output	<p><IEEE1394> HDV: MPEG1 Layer II 16-bit, 48 kHz, 384 kbps, DV: Linear PCM 16-bit, 48 kHz, Nonlinear PCM 12-bit, 32 kHz (2ch)</p> <p><Analog> Balanced XLR Type (ch1, ch2): +4 dBu, -2 dBu, -4 dBu, -10 dBu Selectable, Unbalanced RCA pin type (ch3, ch4): +0 dBu, -6 dBu, -8 dBu, -14 dBu Selectable, Audio Sampling Rate: 24-bit, 48 kHz/32 kHz</p> <p><HD-SDI/SDI Embedded Audio> Linear PCM 24-bit, 48 kHz</p>
Video Processing	<p>Scaling: Scaling between the specified input and output, Frame Sync: Built in frame synchronizer and genlock to external device, Frame Rate Conversion: from 59.94 to 50 Hz etc., I/P Conversion: De-interlace function built-in</p>
Audio Processing	<p>Delay: Adjustment with Millisecond or Frame Sample Rate Conversion: from 32 to 48 kHz etc.</p>
Display	Character Type LCD: 20 characters, 2 lines (backlit LCD)
Power Supply	AC 117 V, AC 230 V, AC 220 V, AC 240 V (50/60 Hz)
Power Consumption	60 W
Dimensions	482 (430 without rack mount bracket) (W) x 309 (D) x 44 (H) mm 19 (16-15/16 without rack mount bracket) (W) x 12-3/16 (D) x 1-3/4 (H) inches
Weight	4.5 kg, 9 lbs 15 oz

VC-50HD | Video Field Converter

Bi-directional, portable video conversion between HD/SD-SDI and MPEG-2 TS/HDV/DV

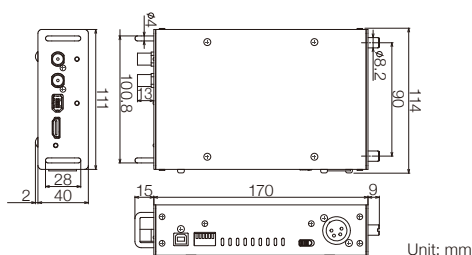


Side Panel

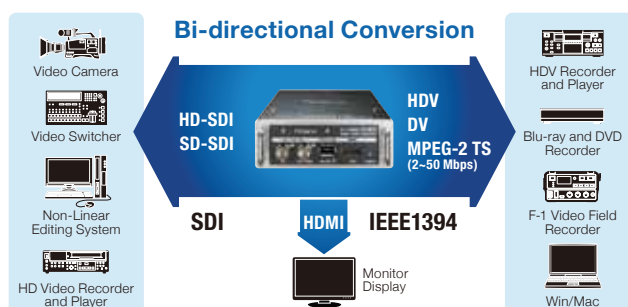


- Bi-directional conversion between HD-SDI and HDV (19/25 Mbps) and 8/35/50 Mbps MPEG-2 TS
- Supports conversion between SD-SDI and DV format (25 Mbps) and 2/9/12 Mbps MPEG-2 TS
- Easy to capture using Video Capture for VC for Windows
- Directly capture and edit using your non-linear editing system
- Easy capture or archiving to Blu-ray/DVD via IEEE1394 (iLINK)
- HDMI Output allows flexible and convenient monitoring
- Setup and Control using VC-50HD RCS for Win/Mac and/or dip switches
- Three different types of power - AA battery x 8, AC Adaptor, External battery (4-pin XLR 9 to 20 V)

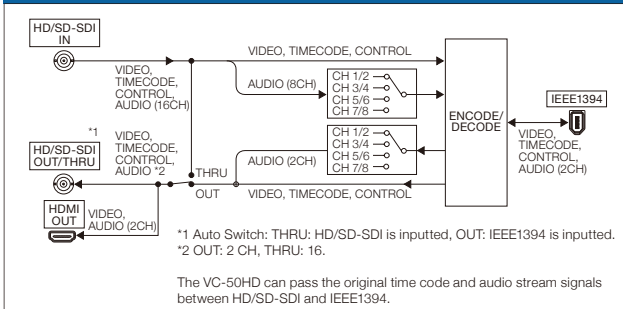
* Up/Down conversion, I/P conversion, NTSC/PAL conversion, Frame conversion are not supported.



Unit: mm



Block Diagram



SPECIFICATIONS VC-50HD

Video Input Format	<p><IEEE1394 (i-LINK)> HDV: 1080/59.94i, 1080/50i, 720/59.94p, 720/50p, DV: 480/59.94i, 576/50i, MPEG-2 TS: 1080/59.94i, 1080/50i, 720/59.94p, 720/50p, 480/59.94i, 576/50i</p> <p><HD/SD-SDI (SMPTE 259M-C, SMPTE 292M)> HD-SDI: 1080/59.94i, 1080/50i (SMPTE 274M), 720/59.94p, 720/50p (SMPTE 296M), SD-SDI: 487/59.94i, 576/50i (ITU-R BT.656-3, 4)</p>
Video Output Format	<p><IEEE1394 (i-LINK)> HDV: 1080/59.94i, 1080/50i, 720/59.94p, 720/50p, DV: 480/59.94i, 576/50i, MPEG-2 TS 50/35/8*1 Mbps (HD): 1080/59.94i, 1080/50i, 720/59.94p, 720/50p, MPEG-2 TS 12/9/2*1 Mbps (SD): 480/59.94i, 576/50i</p> <p><HD/SD-SDI (SMPTE 259M-C, SMPTE 292M)> HD-SDI: 1080/59.94i, 1080/50i (SMPTE 274M), 720/59.94p, 720/50p (SMPTE 296M), SD-SDI: 487/59.94i, 576/50i (ITU-R BT.656-4)</p> <p><HDMI> 1080/59.94i, 1080/50i, 720/59.94p, 720/50p, 480/59.94i, 576/50i</p>
Audio Input	<p><IEEE1394> HDV: MPEG-1 Audio Layer2 16-bit 48 kHz 2ch 384 kbps, DV: Linear PCM 16-bit 48 kHz 2ch, MPEG-2 TS: MPEG-1 Audio Layer2 16-bit 48 kHz 2ch 384 kbps</p> <p><HD/SD-SDI Embedded Audio> HD-SDI: Linear PCM 24-bit 48 kHz 2ch (SMPTE 299M), SD-SDI: Linear PCM 24-bit 48 kHz 2ch (SMPTE 272M-AC)</p>
Audio Output	<p><IEEE1394> HDV: MPEG-1 Audio Layer2 16-bit 48 kHz 2ch 384 kbps, DV: Linear PCM 16-bit 48 kHz 2ch, MPEG-2 TS: MPEG-1 Audio Layer2 16-bit 48 kHz 2ch 384 kbps</p> <p><HD/SD-SDI Embedded Audio> HD-SDI: Linear PCM 24-bit 48 kHz 2ch (SMPTE 299M), SD-SDI: Linear PCM 24-bit 48 kHz 2ch (SMPTE 272M-C)</p> <p><HDMI> Linear PCM 24-bit 48 kHz 2ch</p>
Timecode In/Out	<p><IEEE1394> HDV: Conforms to HDV Standard, DV: Conforms to IEC 61834-2, MPEG-2 TS: Conforms to IEC 13818-2</p> <p><HD/SD-SDI> HD-SDI: Conforms to SMPTE RP188 (VITC, LTC), SD-SDI: Conforms to SMPTE 266M, SMPTE RP188 (VITC, LTC)</p>

Connectors	<p><IEEE1394 Connector (i.LINK)> 6-pin Type x 1 Conforms to IEEE1394-1995</p> <p><HD/SD-SDI Input Connector> BNC Type x 1 Conforms to SMPTE 259M-C, SMPTE 292M</p> <p><HD/SD-SDI Output/Thru Output Connector> BNC Type x 1 Conforms to SMPTE 259M-C, SMPTE 292M</p> <p><HDMI Output Connector> Type A (19-pin) x 1</p> <p><USB Connector> B Type x 1 Conforms to USB1.1 Full Speed</p> <p><DC IN Connector> XLR 4-pin Type x 1 DC 9-20 V</p>
Power Supply	AC Adaptor (PSB-1U) or External Battery (DC 9 to 20 V) or HR15/51 x 8 or LR6 (AA) x 8
Max Operation time	about 2 hour (Nickel Metal Hydride Battery), about 30 min (Alkaline Dry Battery), about 10 hour (External, IDX Endura10 Li-Ion Battery) * battery life will be changed according to the system situation.
Current Draw	2000 mA
Dimensions	114 (W) x 194 (D) x 42 (H) mm 1-1/2 (W) x 7-11/16 (D) x 1-11/16 (H) inches
Weight	620 g, 1 lb 6 oz (excluding batteries)
Accessories	Owner's Manual, AC Adaptor (PSB-1U), Conversion cable (AC Adaptor to XLR 4-pin type connector), AC Power Cord, Battery Case (for AA type battery x 8), Battery Plate Holder, mount screw for Battery Plate Holder x 8, Ferrate Core x 8

* Up/Down conversion, I/P conversion, NTSC/PAL conversion, Frame conversion are not supported.

* Parameter setup can be controlled by dip switch, dedicated utility software, or via the F-1 Video Recorder directly (Version 2.0).

* Dedicated software, VC-50HD RCS for PC or Mac can be downloaded from www.rolandsystemsgroup.net.

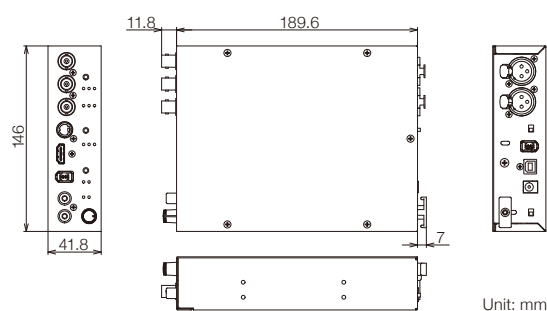
VC-30HD

Video Converter

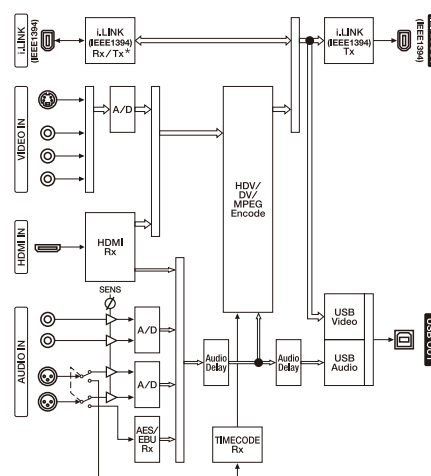
Audio/Video converter for web streaming and capture/archiving



- Webstream and archive to Blu-ray at the same time
- Live event video streaming & recording applications
- Simultaneous USB and two Firewire outputs
- Supports numerous video/audio format conversions
- Easy to capture using Video Capture for VC for Windows
- Setup and Control using VC-30HD RCS for Win/Mac



Block Diagram



* The output is not available when input is HDV/DV/MPEG-2 TS.

SPECIFICATIONS VC-30HD

CODEC TYPE

HDV	Video Format: MPEG-2 Video, 8 bits, 4:2:0 1440 x 1080/59.94i/50i/23.98p (25 Mbps) *1, 1280 x 720/59.94p/50p (18.3 Mbps), 720 x 480/59.94p, 720 x 576/50p (18 Mbps) Audio Format: MPEG-1 Audio Layer2, 16 bits, 48 kHz, 2 ch (384 kbps)
DV	Video Format: 720 x 480/59.94i, 720 x 576/50i Audio Format: Linear PCM, 16 bits, 48 kHz, 2 ch
MPEG-2	Video Format: MPEG-2 Video, 8 bits, 4:2:0 1920 x 1080/59.94i/50i/23.98p (25 Mbps) *1, 1280 x 720/59.94p/50p (25 Mbps) *1, 720 x 480/59.94p, 720 x 576/50p (25 Mbps) *1, 720 x 480/59.94i, 720 x 576/50i (6 Mbps) *2 Audio Format: MPEG-1 Audio Layer2, 16 bits, 48 kHz, 2 ch (384 kbps)

INPUT

HDMI *3	Connector Type: Type A (19 pins) x 1 Video Format: 1920 x 1080/59.94i/50i, 1280 x 720/59.94p/50p, 720 x 480/59.94p, 720 x 576/50p, 720 (1440) x 480/59.94i, 720 (1440) x 576/50i Audio Format: Linear PCM, 16 to 24 bit, 32 to 48 kHz, 2 ch
Component	Connectors Type: Y/Pb/Pr (BNC type) x 1 Video Format: 1920 x 1080/59.94i/50i/23.98 PsF, 1280 x 720/59.94p/50p, 720 x 480/59.94p, 720 x 576/50p, 720 x 480/59.94i, 720 x 576/50i Input Level: 1.0 Vp-p (Luminance), 0.7 Vp-p (Chrominance) Impedance: 75 ohms
Composite	Connector Type: BNC type x 1 (Combined use with Component Y Connector) Video Format: NTSC, PAL Input Level: 1.0 Vp-p, Impedance: 75 ohms
S-Video	Connector Type: 4-pin mini DIN type x 1 Video Format: NTSC, PAL Input Level: 1.0 Vp-p (Luminance), 0.286 Vp-p (NTSC Chrominance), 0.3 Vp-p (PAL Chrominance) Impedance: 75 ohms
i.LINK (Front)	Connector Type: 6-pin type (S100) x 1 Signal Format: HDV, DV (IEC61883-2), MPEG-2 TS (IEC61883-4) Maximum Bit Rate: 50 Mbps

Audio (Front)

Connectors Type: RCA phono type x 1 pair (L/R)
Input Level: -20 to -6 dBu, Impedance: 35 k ohms

Audio (Rear)

Connectors Type: XLR type (balanced) x 1 pair (L/R)
Input Level: -8 to +10 dBu, Impedance: 14 k ohms

Digital Audio

Connector Type: XLR type x 1
(Combined use with Audio Rear R ch Connector)
Signal Format: AES3, 16 to 24 bits, 32 to 48 kHz, 2 ch
Impedance: 110 ohms

Timecode

Connector Type: XLR type x 1
(Combined use with Audio Rear L ch Connector)
Signal Format: SMPTE 12M LTC
Input Level: 0.5 to 18 Vp-p, Impedance: 14 k ohms

OUTPUT *4

i.LINK (Rear)	Connector Type: 6-pin type (S100) x 1 Signal Format: HDV, DV (IEC61883-2), MPEG-2 TS (IEC61883-4) Maximum Bit Rate: 50 Mbps
USB	Connector Type: USB Type B (Hi-Speed USB) x 1 Signal Format: USB Video (DV, MPEG-2 TS), USB Audio (Audio, MIDI) Maximum Bit Rate: 25 Mbps (35 Mbps and 50 Mbps are not supported.)

OTHERS

Dimensions	146 (W) x 210 (D) x 42 (H) mm 5-3/4 (W) x 8-5/16 (D) x 1-11/16 (H) inches
Weight	900 g, 2 lbs (without AC Adaptor)

(0dBu=0.775Vrms)

*1: 25 Mbps is default value. MPEG-2 TS bit rate can be set using VC-30HD RCS.

*2: 6 Mbps is default value. MPEG-2 TS bit rate can be set using VC-30HD RCS.

*3: Version 1.3, with Deep Color support.

HDCP (High-bandwidth Digital Content Protection) is not supported.

*4: i.LINK and USB output signals are the same bit rate. Up/Down conversion, I/P conversion, NTSC/PAL conversion, Frame conversion are not supported.

* Dedicated software, VC-30HD RCS for PC or Mac can be downloaded from www.rolandsystemsgroup.net.

VC-1 series | Video Converters

Award-winning multi-format conversion technology concentrated in a simplified mini-converter

VC-1-SH | SDI to HDMI

3G bps
1080/60p
Lossless
HDCP
AUDIO EMBEDDING

Conversion of video and audio signals from SDI input to HDMI output

NEW

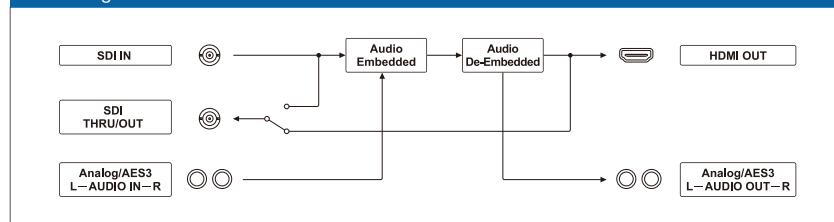

- SDI to HDMI conversion
- Lossless image conversion
- 3G (Level A and B)/HD/SD SDI
- HDCP support
- Selectable Channel for Embedded/De-Embedded Audio

* Up/Down/Cross, Frame rate, I/P, and Aspect ratio conversion are not supported.

MODE DIP SW

NO	MODE	OFF	ON
10	CONTROL	MODE SW	MEMORY
9	HDCP Encrypt	OFF	ON
8	SDI THRU/OUT	THRU	OUT
7	AUDIO OUT De-Embedded Ch Sel	1 + 2	3 + 4
6			5 + 6
5	SDI Audio Group	G1/G2	G3/G4
4	AUDIO IN Embedded Ch Sel	1 + 2	3 + 4
3			5 + 6
2	AUDIO IN Embedding	OFF	ON
1	AUDIO IN/OUT Type	Analog	AES3

Block Diagram



VC-1-HS | HDMI to SDI

3G bps
1080/60p
Lossless
HDCP
AUDIO EMBEDDING

Conversion of video and audio signals from HDMI input to SDI output

NEW

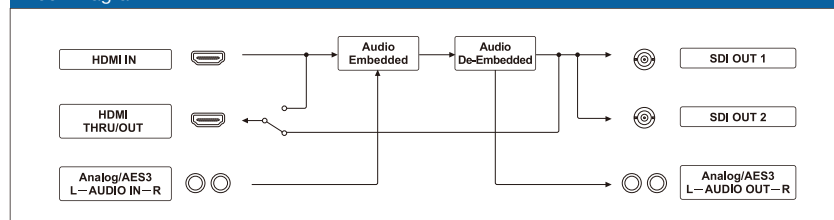

- HDMI to SDI conversion
- Lossless image conversion
- 3G (Level A and B)/HD/SD SDI
- HDCP support
- Selectable Channel for Embedded/De-Embedded Audio

* Up/Down/Cross, Frame rate, I/P, and Aspect ratio conversion are not supported.

MODE DIP SW

NO	MODE	OFF	ON
10	CONTROL	MODE SW	MEMORY
9	3G-SDI Type	Level A	Level B
8	HDMI THRU/OUT	THRU	OUT
7	AUDIO OUT De-Embedded Ch Sel	1 + 2	3 + 4
6			5 + 6
5	SDI Audio Group	G1/G2	G3/G4
4	AUDIO IN Embedded Ch Sel	1 + 2	3 + 4
3			5 + 6
2	AUDIO IN Embedding	OFF	ON
1	AUDIO IN/OUT Type	Analog	AES3

Block Diagram



VC-1-DL | FS Delay



Bi-directional Conversion of video and audio signals from HDMI to SDI or SDI to HDMI with Frame Sync and Delay

NEW



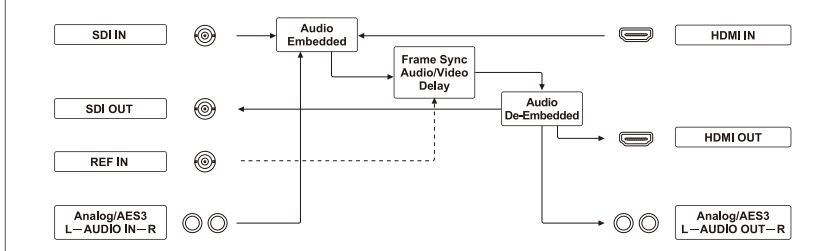
- HDMI to SDI/SDI to HDMI conversion
- Lossless image conversion
- 3G (Level A and B)/HD/SD SDI
- HDCP support
- Selectable Channel for Embedded/De-Embedded Audio
- Audio/Video Delay - up to 9 fields (4.5 frames)

* Up/Down/Cross, Frame rate, I/P, and Aspect ratio conversion are not supported.
* When frame synchronizer is working, CH 3-8 of HDMI and CH 3-16 of SDI audio output are not available.

MODE DIP SW

NO	MODE	OFF	ON
10	CONTROL	MODE SW	MEMORY
9	3G-SDI Type	Level A	Level B
8	Input Select	SDI IN	HDMI IN
7	AUDIO OUT De-Embedded Ch Sel	1 + 2	3 + 4
6		5 + 6	7 + 8
5	SDI Audio Group	G1/G2	G3/G4
4	AUDIO IN Embedded Ch Sel	1 + 2	3 + 4
3		5 + 6	7 + 8
2	AUDIO IN Embedding	OFF	ON
1	AUDIO IN/OUT Type	Analog	AES3
Audio Delay		x0.5 Frame (x1.0 Field)	
Video Delay		x0.5 Frame (x1.0 Field)	

Block Diagram



VC-1-SC | Scan Converter



Up/Down/Cross Scan Converter to SDI/HDMI with Frame Sync

NEW

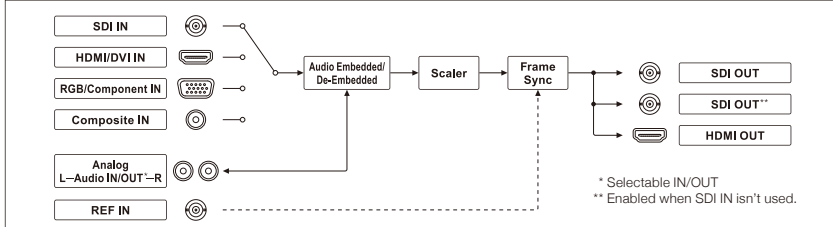


- 3G (Level A and B)/HD/SD SDI In/Out
- HDMI In/Out
- RGB/Component In
- Composite In
- HDCP support
- Built-in Frame Synchronizer and Scaler
- Up/Down/Cross, Frame Rate*, I/P, and Aspect Ratio conversion
- * Frame skip/repeat type
- Audio embedding or De-embedding
- VC-1 RCS, Dedicated PC/Mac Software App

MODE DIP SW

NO	MODE	OFF	ON
10	CONTROL	MODE SW	MEMORY
9	3G-SDI Type	Level A	Level B
8	NTSC Setup	0 IRE	7.5 IRE
7	Output Format	SD	720p
6		1080i	1080p
5	Output Frame Rate	59.94 Hz	50 Hz
4	AUDIO Embedded/De-Embedded Ch Sel	1 + 2	3 + 4
3		5 + 6	7 + 8
2	SDI Audio Group	G1/G2	G3/G4
1	Analog AUDIO	IN	OUT

Block Diagram



VC-1 series

Uncompromising commitment to picture quality

The VC-1 series faithfully converts the original source with no change in color or brightness. It supports super-blacks and super-whites, and converts video from cameras and other source devices maintaining all aspects of the original source.



Color bar signal

[Vector scope]
Faithful conversion of color phase and chroma[Waveform monitor]
Faithful conversion from super-blacks to super whites

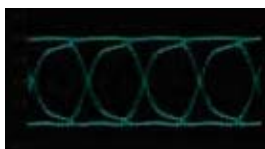
Lossless

On-board reclocker

The VC-1 series features an on-board reclocker to compensate for attenuation of SDI signals carried over long distances. This makes it possible to receive camera-relay video while maintaining a high image quality.



Signal before reclocking



Reduction of jitter

Support for HDCP HDMI signals

The VC-1 series is compliant with HDCP. For example, the VC-1-DL can take HDCP-applied HDMI input signals, apply frame synchronization or delay, and produce HDCP-applied HDMI output. This allows the VC-1 series to be used in any HDCP-based system with no worries.

* HDCP-applied HDMI signals cannot be converted to SDI and recorded to HDMI recorders and editors.



Faithful reproduction of video characteristics

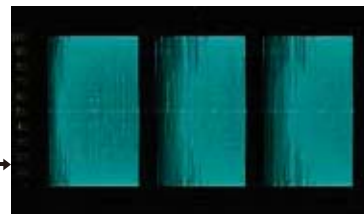
The VC-1 series reproduces the video characteristics of the original source with no interlace artifacts, pixel shifting, or other conversion problems or signal errors. Jitter and return loss are at absolute minimal levels.



Burst signal



Lossless

[Waveform monitor]
Perfect conversion of frequency character

Support for 1080p 3G-SDI

Video signals beyond 1080i can be input and output. The VC-1 series supports both level A and level B 3G-SDI, letting you connect a wide variety of 3G-SDI equipment. 1080i, 720p, and SD signals are accommodated also automatically on connection.



Interlaced (1080/60i)



Progressive (1080/60p)

Support for workflow combining audio and video

Audio embedding and de-embedding features are provided (channel-selectable) in the VC-1 Series. The audio embedding feature lets you place audio signals from a different source into the video output. For example, when converting an SDI signal to HDMI, you can use the audio embedding feature to output high-quality audio from any of the SDI audio channels. Digital (AES/EBU) input and output are also supported, letting you exchange sound between professional audio equipment with no degradation in signal. Analog input and output is supported as well making it possible to both monitor and input audio to/from a wide variety of equipment such as an audio console.



Easy configuration with DIP switches or dedicated PC/Mac software app

DIP switches make it simple to accommodate on-site adjustments. Change the conversion direction or other settings by simply sliding a DIP switch on the side of the unit. Delay Dials (VC-1-DL only) set the amount of delay for video and audio. Set the amount of delay independently for video and audio in a range of 0 to 9 fields (0 to 4.5 frames). Connection to a computer via USB cable unlocks even greater versatility with advanced settings including a memory location to lock in a favorite configuration. Control and configure multiple VC-1 units at the same time using a USB hub.







Delay Dials (VC-1-DL only) and DIP switches on side panel



VC-1 RCS

* The VC-1 RCS for PC/Mac can be downloaded from www.rolandsystemsgroup.net

SPECIFICATIONS VC-1 series

			 VC-1-SH SDI to HDMI	 VC-1-HS HDMI to SDI	 VC-1-DL FS Delay	 VC-1-SC Scan Converter
Input	SDI		Yes	-	Yes	Yes * Selectable IN/OUT
	HDMI		-	Yes	Yes	Yes
	RGB/Component		-	-	-	Yes
	Composite		-	-	-	Yes
	Analog Audio		Yes	Yes	Yes	Yes * Selectable IN/OUT
	Digital Audio		Yes * Selectable Analog/Digital	Yes * Selectable Analog/Digital	Yes * Selectable Analog/Digital	-
	Reference		-	-	Yes	Yes
Output	SDI		Yes * Selectable THRU/OUT	Yes	Yes	Yes * One of two is selectable IN/OUT
	HDMI		Yes	Yes * Selectable THRU/OUT	Yes	Yes
	Analog Audio		Yes	Yes	Yes	Yes * Selectable IN/OUT
	Digital Audio		Yes * Selectable Analog/Digital	Yes * Selectable Analog/Digital	Yes * Selectable Analog/Digital	-
Format	SDI	Video Format	[Input/Output] 1920 x 1080/60p/59.94p/50p/30p/29.97p/25p/24p/23.98p/60i/59.94i/50i, 1280 x 720/60p/59.94p/50p/30p/29.97p/25p, 720 x 487/59.94i, 720 x 576/50i			[Input] 1920 x 1080/60p/59.94p/50p/30p/29.97p/25p/24p/23.98p/60i/59.94i/50i/30PsF/29.97PsF/25PsF/24PsF/23.98PsF, 720 x 487/59.94i, 720 x 576/50i, 1280 x 720/60p/59.94p/50p/30p/29.97p/25p/24p/23.98p [Output] 1920 x 1080/59.94p/50p/59.94i/50i, 1280 x 720/59.94p/50p, 720 x 487/59.94i, 720 x 576/50i
		Color Format	10 bits YCC 4:2:2			
		Audio Format	Linear PCM, 24 bits, 48 kHz, 16 ch *1			
	HDMI	Video Format	[Input/Output] 1920 x 1080/60p/59.94p/50p/30p/29.97p/25p/24p/23.98p/60i/59.94i/50i, 1280 x 720/60p/59.94p/50p/30p/29.97p/25p, 720 x 480/59.94i, 720 x 576/50i			[Input] 1920 x 1080/60p/59.94p/50p/30p/29.97p/25p/24p/23.98p/60i/59.94i/50i/30PsF/29.97PsF/25PsF/24PsF/23.98PsF, 720 x 480/59.94p/59.94i, 720 x 576/50p/50i, 640 x 480/60/72/75/85 Hz, 800 x 600/56/60/72/75/85 Hz, 1024 x 768/60/70/75/85 Hz, 1280 x 768/60/75/85 Hz, 1360 x 768/60 Hz, 1152 x 864/75 Hz, 1400 x 900/60/75/85 Hz, 1280 x 960/60/85 Hz, 1280 x 1024/60/75/85 Hz, 1400 x 1050/60/75 Hz, 1680 x 1050/60 Hz, 1600 x 1200/60 Hz, 1920 x 1200/60 Hz: Reduced blanking [Output] 1920 x 1080/59.94p/50p/59.94i/50i, 1280 x 720/59.94p/50p, 720 x 480/59.94i, 720 x 576/50i
		Color Format	10 bits YCC 4:2:2, 8 bits YCC 4:4:4, 8 bits RGB 4:4:4			
		Audio Format	Linear PCM, 24 bits, 48 kHz, 8 ch *1			
	RGB/ Component	Video Format	-	-	-	[Input] 1920 x 1080/60p/59.94p/50p/60i/59.94i/50i/24PsF/23.98PsF, 1280 x 720/60p/59.94p/50p, 720 x 480/59.94p/59.94i, 720 x 576/50p/50i, 640 x 480/60/72/75/85 Hz, 800 x 600/56/60/72/75/85 Hz, 1024 x 768/60/70/75/85 Hz, 1280 x 768/60/75/85 Hz, 1360 x 768/60 Hz, 1152 x 864/75 Hz, 1400 x 900/60/75/85 Hz, 1280 x 960/60/85 Hz, 1280 x 1024/60/75/85 Hz, 1400 x 1050/60/75 Hz, 1680 x 1050/60 Hz, 1600 x 1200/60 Hz, 1920 x 1200/60 Hz: Reduced blanking
	Composite	Video Format	-	-	-	NTSC, PAL
	Processing	Audio embedding/de-embedding		Yes	Yes	Yes
Video Delay		-	-	0 to 4.5 frames	-	
Audio Delay		-	-	0 to 4.5 frames	-	
Frame Synchronize		-	-	Yes	Yes	
Up/Down/Cross, Frame Rate*2, I/P, Aspect Ratio Conversion		-	-	-	Yes	
Control Software			VC-1 RCS for Win/Mac			
Others	USB Connector		USB Type B (Hi-Speed USB) x 1			
	Power Supply		DC 9 V (AC Adaptor)			
	Power Consumption		8 W	8 W	8 W	18 W
	Dimensions		150 (W) x 130 (D) x 30 (H) mm, 5-15/16 (W) x 5-1/8 (D) x 1-3/16 (H) inches			
	Weight		500 g (without AC Adaptor), 1 lb 2 oz			
	Operation Temperature		+0 to +40 degrees Celsius			
	Accessories		AC Adaptor, Power Cord, Rubber Foot x 4, Owner's Manual			

(0dBu=0.775Vrms)

*1: VC-1-DL: When frame synchronizer is working, CH 3-8 of HDMI and CH 3-16 of SDI audio output are not available. VC-1-SC: CH 3-8 of HDMI and CH 3-16 of SDI audio output are not available.

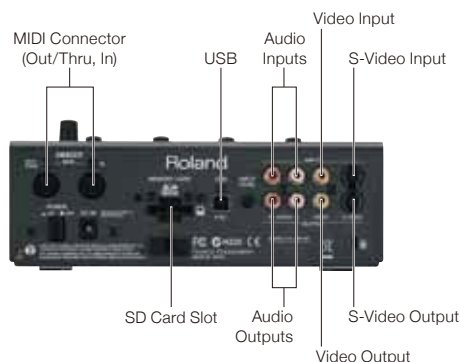
*2: Frame skip/repeat type

The VC-1 series support HDCP (High-bandwidth Digital Content Protection system). When an HDCP-applied signal is input, output is possible from only the HDMI OUT connector. Output from the SDI OUT connector and AUDIO OUT connectors is stopped.

P-10 | Visual Sampler

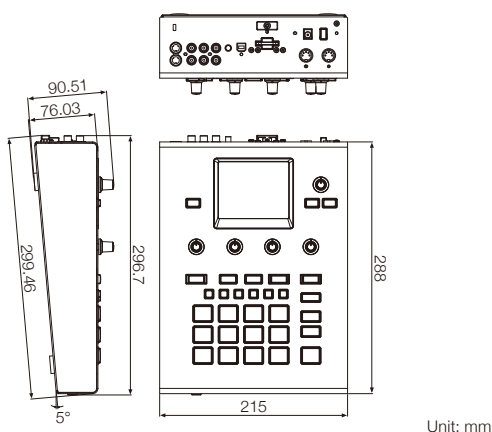
Enjoy easy-to-use, reliable playback of video and still images with dedicated video presenter

V-LINK



- Record to, and Playback from, standard SD or SDHC Memory Cards
- Capturing media from various sources (video decks, DVD players, digital cameras, etc) is extremely easy, and video is stored as Motion JPEG and still images as JPEGs
- Playback modes like Reverse, Strobe or Motion Control provide impressive effects for your audience, Slide Show enables animation from multiple still images

- Store and recall up to 864 clips using 12 pads and 72 banks
- Built-in 3.5 inch color LCD display eliminates the need for an external monitor
- Hi-Speed USB port for rapid data transfer of media to and from a computer
- Sync your Audio & Video with V-LINK
- Includes P-10 Image Converter Software



Movie Play Modes

Forward Loop	Loops playback	Gate 1	Plays while a pad is pressed. Pauses the frame when the pad is released. Press again to start from the paused frame.
Alternate Loop	Repeats forward and reverse playback		
One Shot 1	Stops at final frame and pauses	Gate 2	Plays while a pad is pressed. Output is stopped when the pad is released.
One Shot 2	Stops at final frame without pausing		

Easily Capture Movies and Assign Clips to Pads



- 1 Play back an image on the external device and press the [EXT SOURCE] button.



- 2 Press the CAPTURE [MOVIE] button at the point that you want to start capturing the movie.



- 3 Press the CAPTURE [MOVIE] button again at the point that you want to stop capturing the movie. (Empty pads flash red.)



- 4 Press a pad that is flashing. The captured movie is assigned to the selected pad.

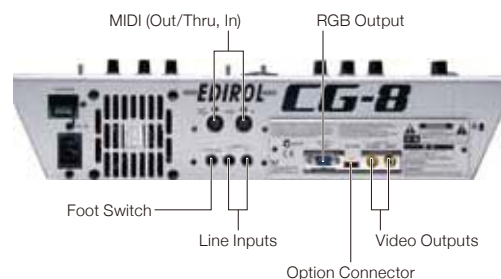
SPECIFICATIONS P-10

Maximum track	Video: 1, Audio: 1 (Stereo)	Display	320 x 240 dots QVGA Color Display
Video Format	NTSC or PAL (selectable)	Connectors	Composite Video Input: RCA pin type, S-Video Input: 4-pin mini DIN type, Audio Input: RCA pin type (L/R), Composite Video Output: RCA pin type, S-Video Output: 4-pin mini DIN type, Audio Output: RCA pin type (L/R), Headphones: Stereo 1/4 inch Phone type, MIDI (In, Out/Thru), USB
Data Format	Movies: Motion JPEG (640 x 480 pixels), 29.97 fps (NTSC), 25 fps (PAL), Still image: JPEG (640 x 480 pixels), Audio: WAV (16-bit/44.1 kHz)	Power Supply	DV 9 V (AC Adaptor)
Storage Media	SD or SDHC memory card	Current Draw	900 mA
Number of Clips	Movies only: up to 864 clips (12 pads x 72 banks), Stills only: up to 86,400 clips (100 images x 12 pads x 72 banks)	Dimensions	215 (W) x 300 (D) x 91 (H) mm 8-1/2 (W) x 11-13/16 (D) x 3-5/8 (H) inches
Video Playback Mode	Forward Loop, Alternate Loop, One Shot (2 types), Gate (2 types)	Weight	1.9 kg, 33 lbs. 9 oz.
Visual Effects	Repeat, Reverse, Strobe, Speed, Color, Output Fade, Slide Show		
Controller	Speed, Color, Output Fade		

CG-8 | Visual Synthesizer

Produce moving 3D effects from still images - all controllable in real-time

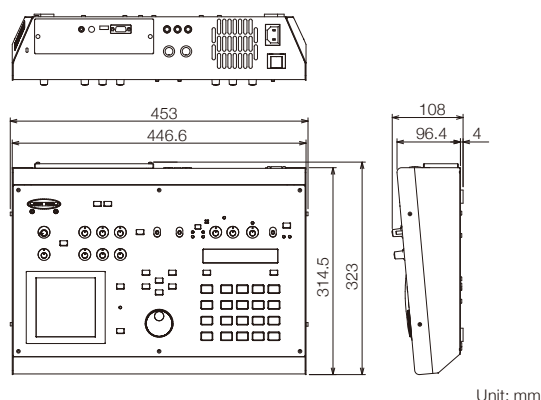
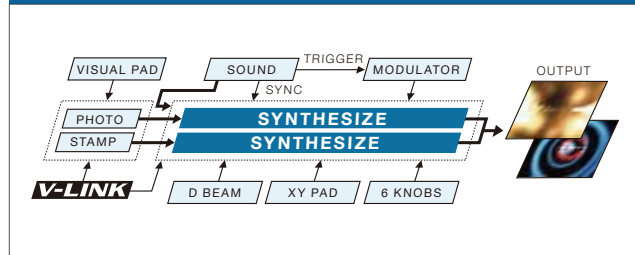
V-LINK



- 3D motion graphics from still images - all controllable in real-time
- 2 separate layers of images enables overlay of a 3D moving title, logo or icon on a background moving image
- More than 200 Photo effects and more than 60 Overlay effects
- 16 trigger pads, a twin D-Beam controller, an assignable X-Y pad, control knobs or an optional foot switch

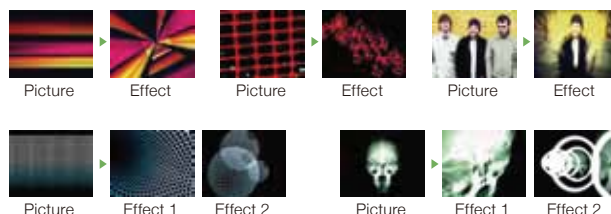
- Adjustable frequency and peak detection provides graphic modulation based on the incoming audio
- VGA, S-video or composite video (NTSC or PAL) output
- MIDI compatibility with support for V-LINK enabled instruments

Image flow within the CG-8



Visual Examples

EXAMPLE 1 (Image of Photo Layer)



EXAMPLE 2 (Image of Stamp Layer)



EXAMPLE 3 (Image of Combination)



SPECIFICATIONS CG-8

Video Format	VGA (640 x 480) 16.7 million colors (24-bit full color) (value is approximate), NTSC or PAL
Number of Photos	Photos: up to 48 JPEG files (512 x 384), Stamp: up to 16 PNG files (512 x 256)
Number of Patches	up to 128 patches per project
Connectors	RGB output: HD DB-15 type, Video output: S-Video output 4-pin mini DIN type (Y: 1.0 Vp-p, C: 0.286 Vp-p, 75-ohm), Composite RCA pin type (1.0 Vp-p, 75-ohm), Audio Input L/R: RCA pin type, MIDI: In, Out/Thru, Foot Switch, Option (for included Memory Card Adaptor)

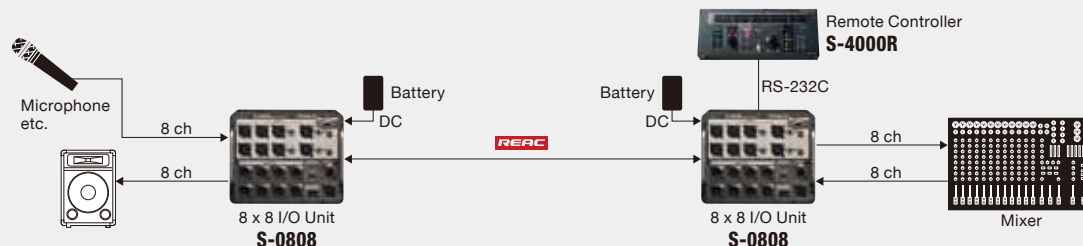
Storage Device	Internal: Hard Disk Drive (for system program and data storage), External: Card Adaptor
Power Supply	AC 117 V, 220 V, 230 V, 240 V (50/60 Hz)
Power Consumption	80 W
Dimensions	453 (W) x 323 (D) x 108 (H) mm 17-7/8 (W) x 12-3/4 (D) x 4-1/4 (H) inches
Weight	5.8 kg, 12 lbs. 13 oz.

Audio Production

The V-Mixing System/Digital Snake System improves sound quality, reduces configuration complexity, and adds breakthrough capabilities.

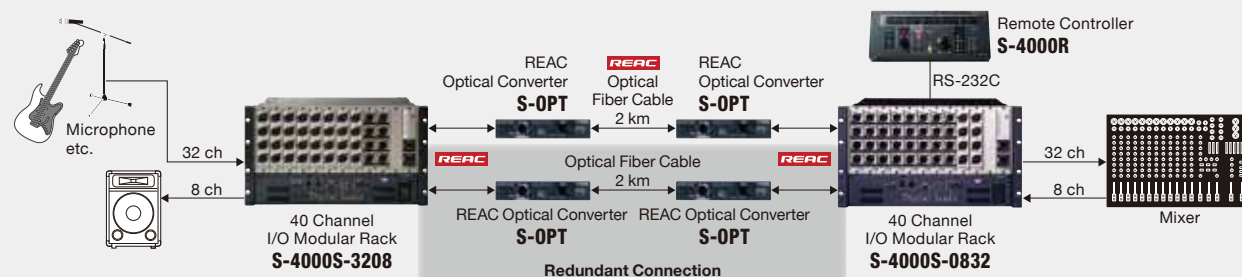
Location Sound - Digital Snake System 8 x 8 Ch with battery operation

An 8 x 8 Ch Digital Snake system enables high quality audio transmission with an easy setup. This system is ideal when AC power is not convenient or available.



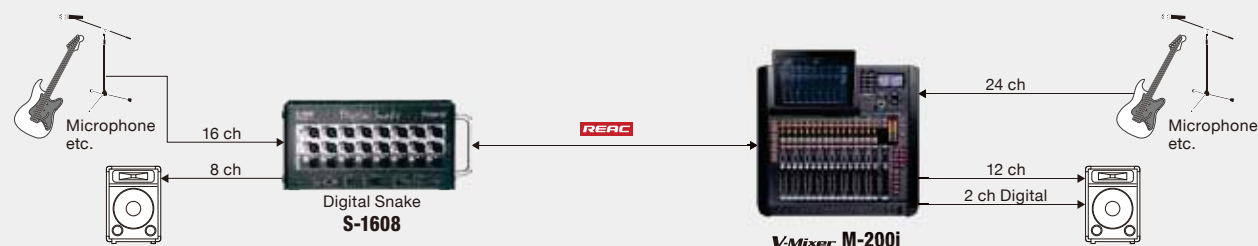
Broadcast - Long Distance Digital Audio Transmission - 32 x 8 Ch with Redundancy

By using the S-OPT REAC optical converter and optical cables (sold separately), the REAC transmission distance can be extended to a maximum of 2 kilometers. If the main cable is compromised, the system will automatically and seamlessly switch to the backup cable.



Live Event - Compact V-Mixing System – 40 Inputs/22 Outputs

16 mic/line inputs, 8 line inputs, 2 main outputs, and 10 assignable outputs are all included in the M-200i. Connect a Digital Snake to the REAC port to expand the number of inputs and outputs.



Installed Sound - Standard V-Mixing System – 42 Inputs/26 Outputs

Standard System consists of two S-1608 Digital Snakes on stage.

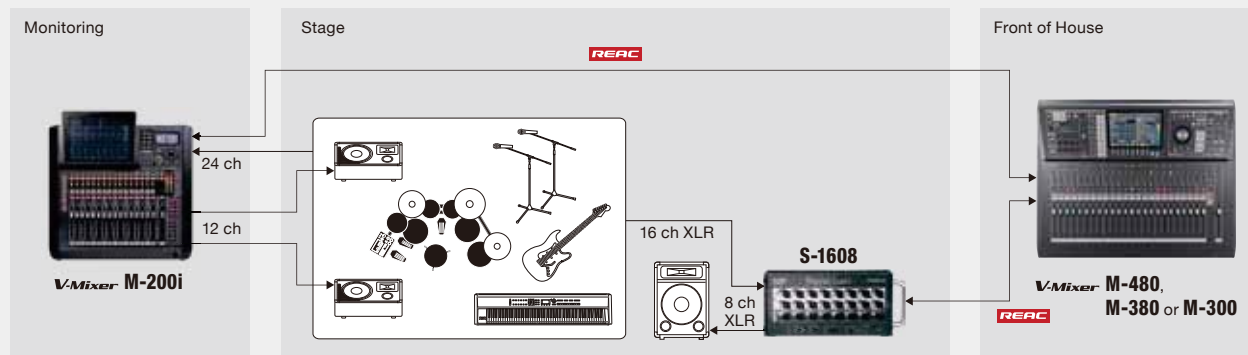


Audio Production

The V-Mixing System/Digital Snake System is configurable for any sound system along with convenient Split, Merge, and Embedded Power technology. It is not an "all or nothing" system so even your current mixing environment can be combined with the V-Mixing System.

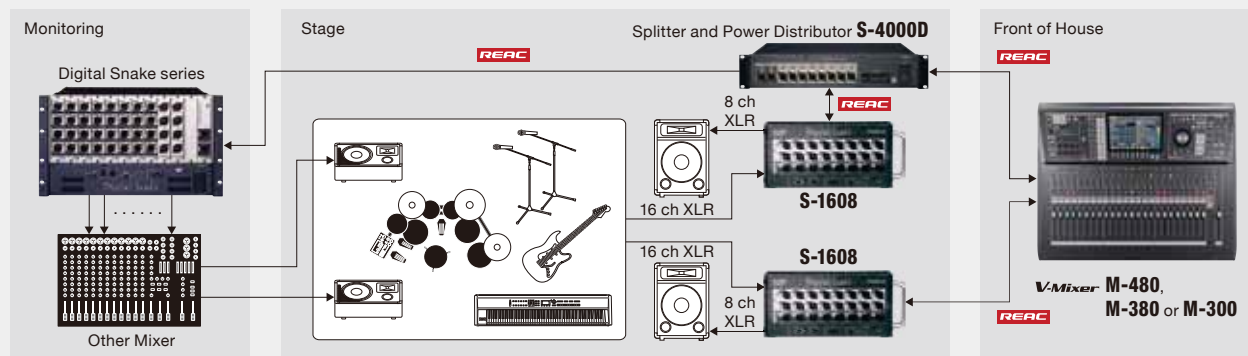
Front of House, Stage I/O and Monitor V-Mixers Setup

The M-200i can be used as a stage I/O unit and a monitor console simultaneously with a V-Mixer on FOH.



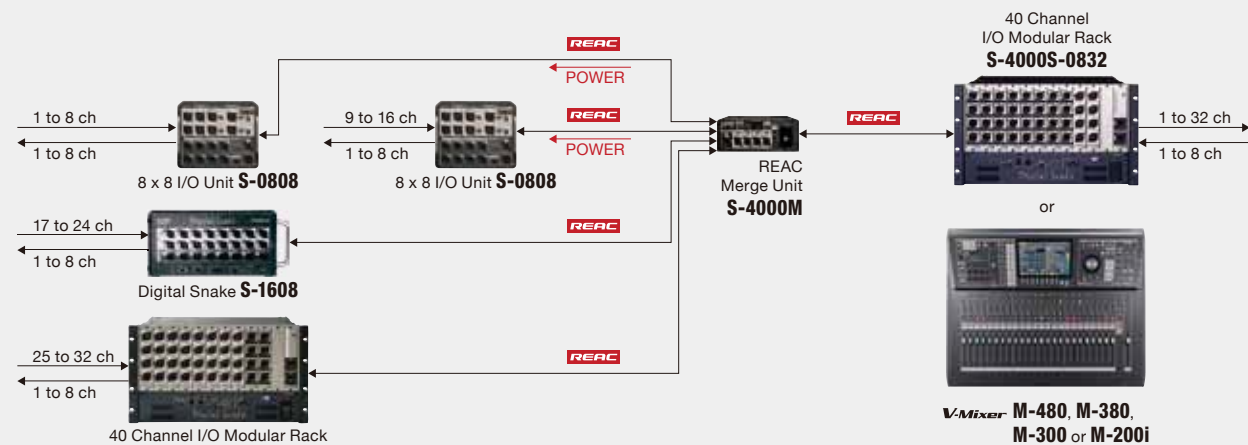
Monitoring Split Setup using Other Mixers

Any analog or digital console can be used as a monitor console with the V-Mixing System.



Merge Setup for Distributed Inputs and Outputs

Using the S-4000M, up to 4 REAC signals (up to 160 inputs) from Digital Snakes can be merged to one single REAC signal (40ch). The S-0808 can be used in a place where AC power is not available using REAC Embedded Power technology.

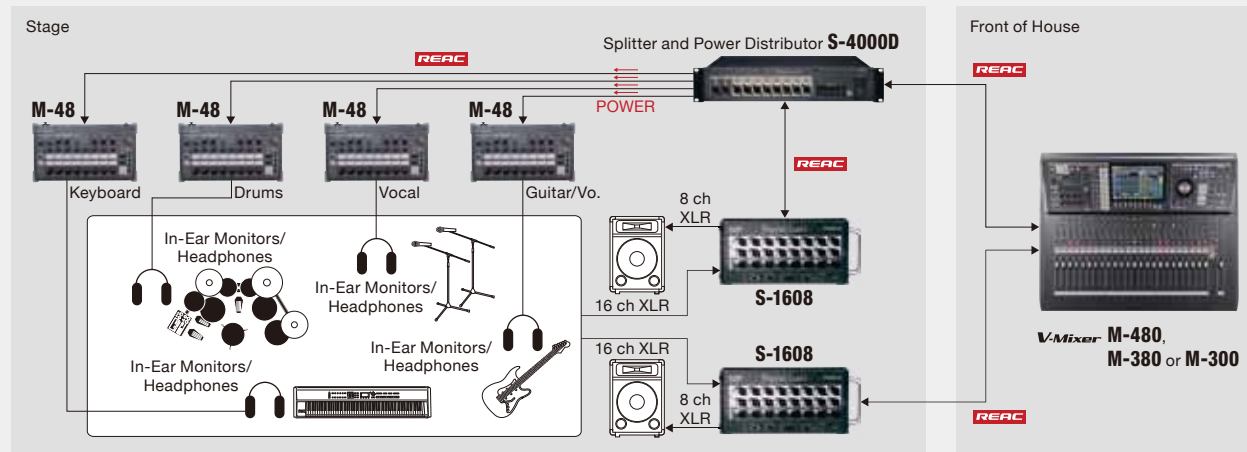


Personal Mixing

M-48 Live Personal Mixing System offers each musician the flexibility to control exactly what they want to listen to during their performance.

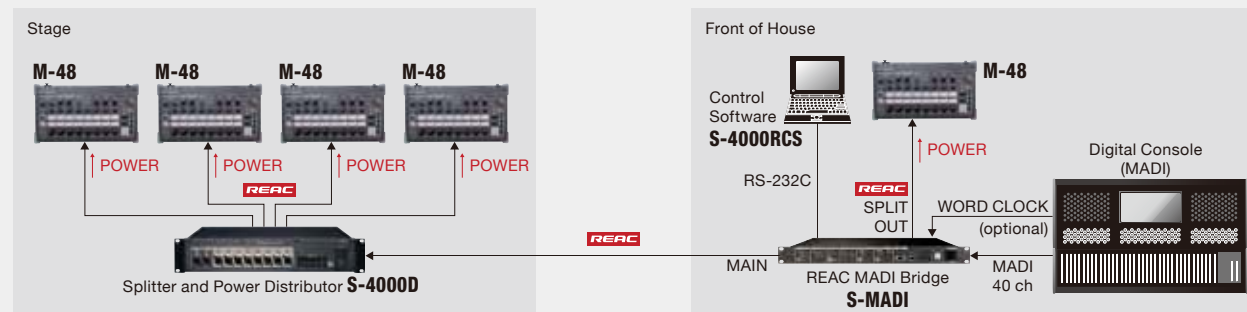
Personal Mixing Setup with V-Mixer

The M-48 enables control of up to 40 audio sources that can be managed via 16 stereo groups - assignable and unique per musician. Any V-Mixer can setup and control multiple M-48s via the S-4000D.



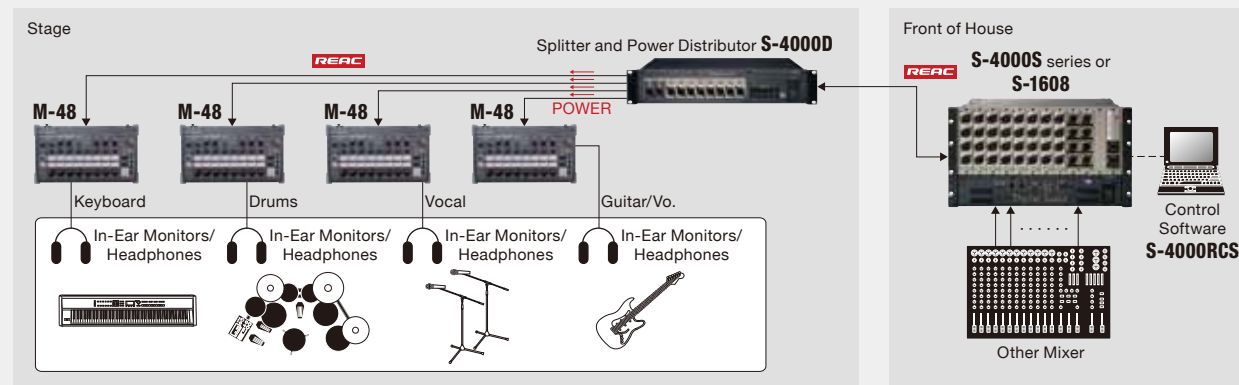
Personal Mixing Setup with Other Digital Consoles

Connect several M-48 Live Personal Mixers to a MADI equipped digital console. An additional M-48 can be connected to the SPLIT OUT port on the S-MADI that also supplies power - all over one Cat5e cable.



Personal Mixing Setup with Other Mixers

With your existing console, connect the M-48 along with the S-1608 (16 channel) or the S-4000S (40 channel) Digital Snake to utilize the complete system. The M-48 Live Digital Mixing System can be incorporated into your existing audio setup.



Recording, Sound Check, Backing Track and Playback System (V-Mixer)

Diagram illustrating the connection of two Stage Unit S-1608 units to a 48-Track Recorder/Player R-1000, which is then connected to a V-Mixer M-480.

The Stage Unit S-1608 units are connected to the 48-Track Recorder/Player R-1000 via REAC (Realtime Audio Connection) cables. The 48-Track Recorder/Player R-1000 is then connected to the V-Mixer M-480 via a standard audio cable.

Full Digital Mixing, Monitoring and Recording Setup

The diagram illustrates a REAC system setup for a stage performance, divided into three main sections: Stage, Front of House, and a central processing area.

Stage Section:

- Personal Monitoring System:** Includes In-Ear Monitors and a Live Personal Mixer **M-48 x 5**.
- Stage Unit S-1608:** Receives input from a Microphone etc. (16 ch) and a Splitter and Power Distributor **S-4000D**. It outputs 2 ch and 6 ch to a Power Amplifier.
- REAC Merge Unit S-4000M:** Receives input from the Stage Unit S-1608 and outputs to the Front of House.

Front of House Section:

- V-Mixer M-480 or M-380:** Receives input from the REAC Merge Unit S-4000M and outputs to the DAW and 48-Track Recorder/Player.
- DAW V-STUDIO 700:** Receives input from the V-Mixer and outputs to the 48-Track Recorder/Player.
- 48-Track Recorder/Player R-1000:** Receives input from the V-Mixer and the DAW.

Central Processing Area:

- Splitter and Power Distributor S-4000D:** Receives input from the Stage Unit S-1608 and outputs to the Stage Unit S-1608 and the REAC Merge Unit S-4000M.

The diagram shows the flow of audio signals from the stage through the REAC system to the front of house and recording equipment.

Broadcasting System with Multiple Locations

The diagram illustrates the REAC system architecture, showing the connection between four shooting areas and a control room.

Shooting Areas (Left):

- Shooting Area A:** 8 x 8 I/O Unit **S-0808**. Inputs: 1 to 8 ch. Output: 1 to 8 ch.
- Shooting Area B:** 8 x 8 I/O Unit **S-0808**. Inputs: 9 to 16 ch, 1 to 8 ch. Output: 1 to 8 ch.
- Shooting Area C:** 8 x 8 I/O Unit **S-0808**. Inputs: 17 to 24 ch, 1 to 8 ch. Output: 1 to 8 ch.
- Shooting Area D:** 8 x 8 I/O Unit **S-0808**. Inputs: 25 to 32 ch, 1 to 8 ch. Output: 1 to 8 ch.

Control Room (Right):

- REAC Merge Unit S-4000M:** Receives signals from all four shooting areas. It has a **REAC** input and a **POWER** output.
- 8 x 32 FOH Unit S-4000H:** Receives signals from the Merge Unit. It has a **REAC** input and a **POWER** output. It outputs 1 to 32 ch and 1 to 8 ch.
- Remote Controller S-4000R:** Connected to the FOH Unit via RS-232C.

Connections:

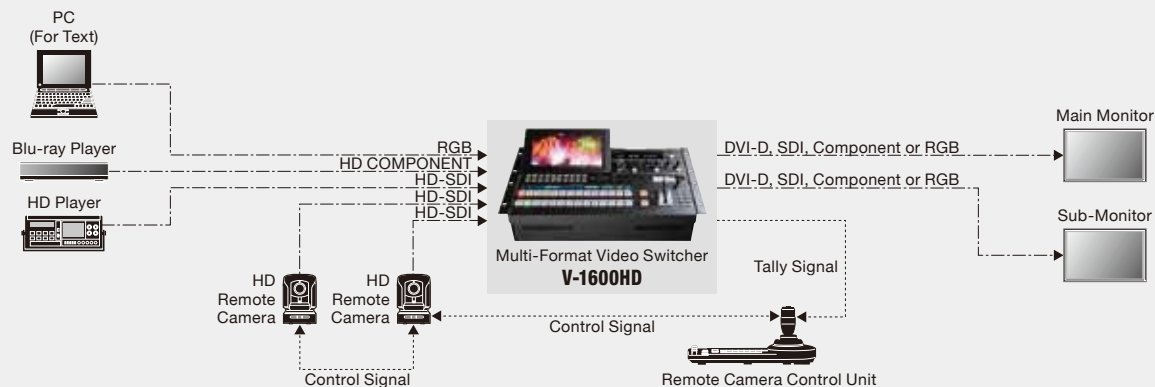
- Each shooting area's output is connected to the REAC Merge Unit.
- The REAC Merge Unit's **POWER** output is connected to the REAC input of the FOH Unit.
- The FOH Unit's **POWER** output is connected to the REAC input of the Remote Controller.

Visual Production

Roland professional video products enable powerful, high quality live video production with intuitive operation. Clear user interfaces provide reliability and easy to use mixers and playback devices.

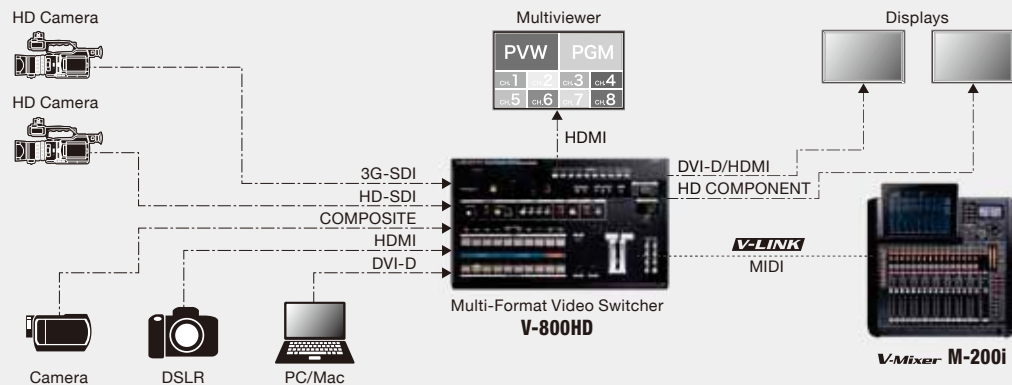
Concert/Live Stage Production

The V-1600HD enables high quality multi-format video mixing for concert/live stage productions. Many types of video formats can be input and mixed thanks to built-in scalars.



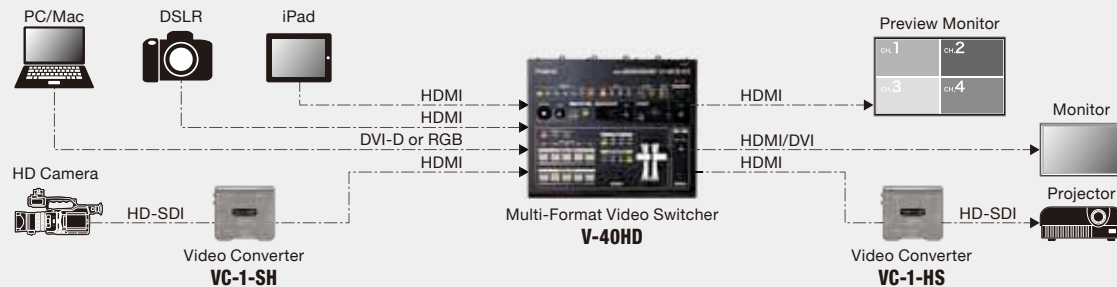
Corporate Presentation

This presentation system enables seamless video switching between different video formats - HD/SD video sources and RGB signals from PC. With V-LINK, audio faders on a Roland audio mixer follow the input selections and T-bar position of the video mixer.



Event Production

The V-40HD Live Video Switcher is ideal for any live event or installation that requires the freedom to connect a variety of sources whether they be digital or analog, computer or video format. It is particularly positioned to support configurations using popular HDMI cameras as well as computers.

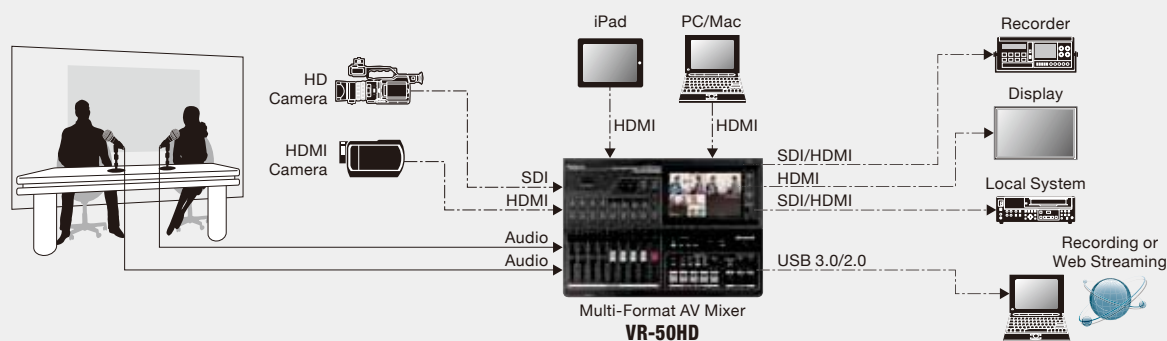


Web Streaming and Capture/Archiving

Integrating Roland Professional Audio and Video products together enables unique and flexible solutions suitable for many applications.

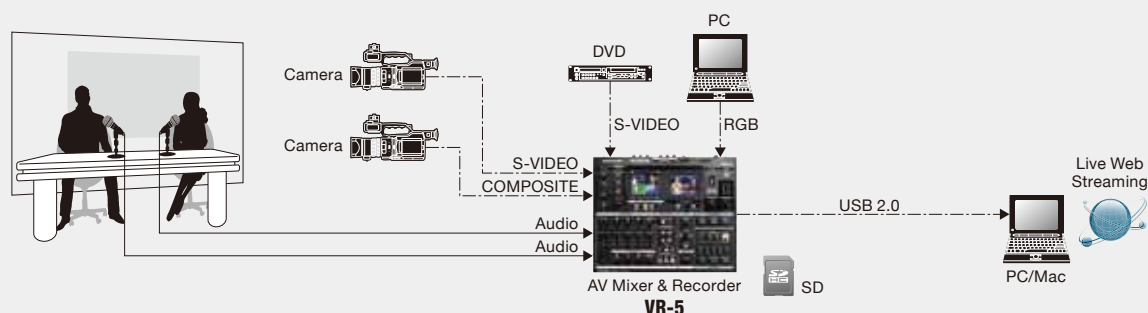
HD Live Video Production and Web Streaming

The Roland VR-50HD all-in-one AV mixer beautifully integrates an audio mixer, video switcher, multi-view touch screen and USB video/audio streaming into a stand-alone device controllable by a single operator.



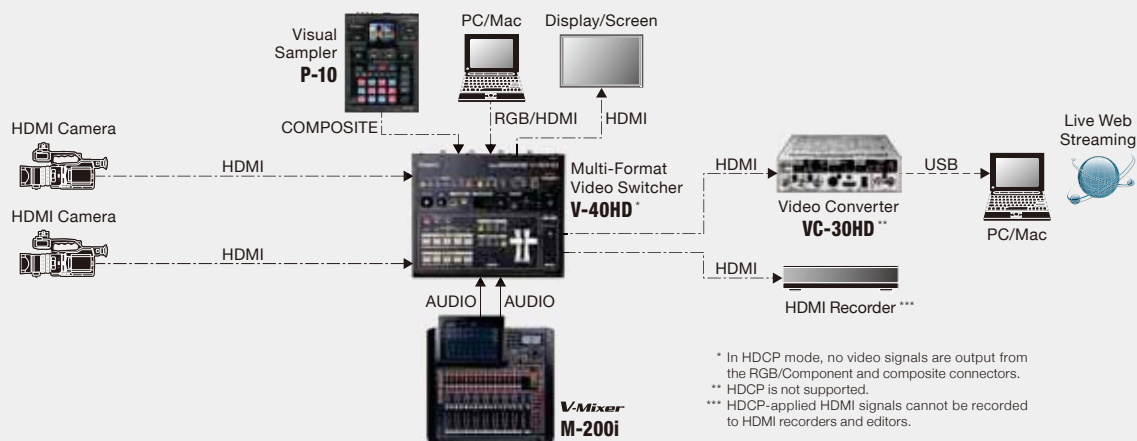
Live Video Production and Web Streaming

The VR-5 has all the necessary functions for live production including an audio mixer, video switcher, scan converter, video recorder, media player and video output via USB. With VR-5, a live web broadcasting environment becomes simple and easy to operate.



Live Stage/Church production with live broadcasting

The V-40HD Live Video Switcher is ideal for any live event or installation that requires the freedom to connect a variety of sources whether they be digital or analog, computer or video format. The V-40HD can input background music, narration, or other analog sound sources, mix and sync the video and audio, and then output the result via HDMI.



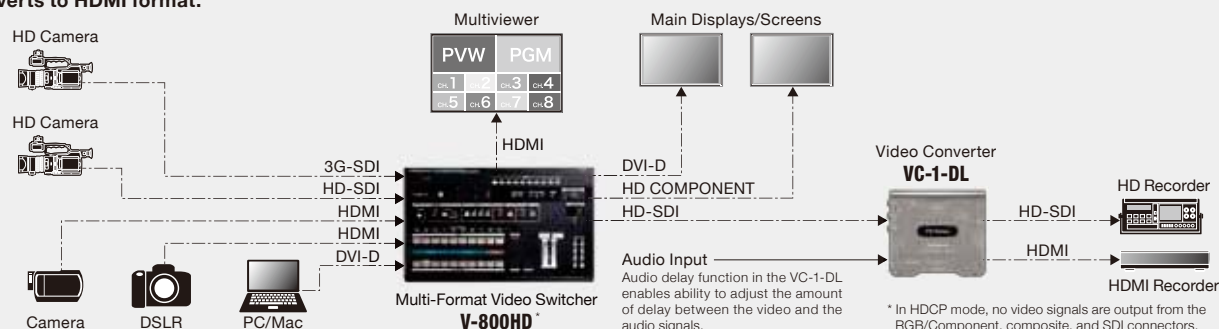
* In HDCP mode, no video signals are output from the RGB/Component and composite connectors.
 ** HDCP is not supported.
 *** HDCP-applied HDMI signals cannot be recorded to HDMI recorders and editors.

Video Recording

Roland offers solutions that are ideal for portable, high quality and extended video recording applications.

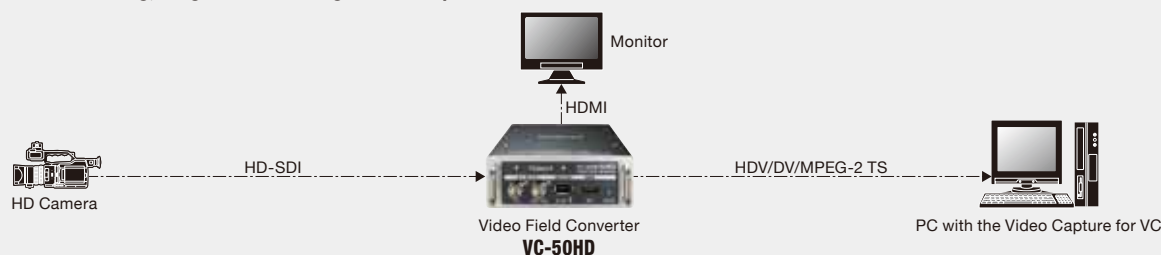
Live Event Recording

This example illustrates affordable and reliable HD video recording of live events. The VC-1-DL combines video and audio, and converts to HDMI format.



Observation/Medical Research

This example configuration enables high quality and continuous audio and video recording. The VC-50HD converts HD-SDI to HDV and sends it to a PC with the Video Capture for VC - which captures the video. Additionally, when a lower MPEG-2 TS bit rate is selected for recording, lengthier recording times are possible.



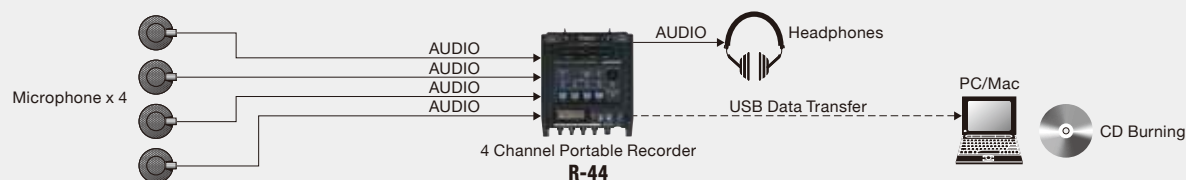
Location Sound

Beyond field applications the R-88 is nicely suited for post-production environments featuring a built-in 10-input/8-output USB audio interface for multi-channel recording. The interface function is also able to provide a backup record mechanism simultaneously recording all tracks to a DAW of choice.



Conference Recording

This example is a typical setup for recording conferences. The R-44 captures four channels of uncompressed audio from table microphones. The recorded audio can then be transferred via USB to a PC/Mac to burn CD's or transfer to flash drives for attendees.



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Product Information



Installation Cases



Promotional Videos



Roland Systems Group, a member of the worldwide group of Roland companies, is dedicated to the support of audio and video professionals demanding excellence in both performance and system design. Through the development and support of video and audio products, we endeavor to improve workflow and maximize creative possibilities.

Ensuring high quality while protecting the environment: Roland is ISO9001 and ISO14001 certified

At Roland, several group companies have obtained ISO9001 certification. In addition, in January 1999, Roland also received ISO14001 international environmental management system certification. We're actively seeking ways to maintain harmony with the environment. (ISO=International Standardization Organization: an organization for the promotion of standardization of international units and terms. They provide different categories of certification: ISO9001 Series certification is a product quality certification for products that undergo a certain level of quality control from the design stage to the after service stage; ISO14001 Series certification is for environment-related standards. Each member of the Roland Group is striving to obtain certification.)



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